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VISTA-20HW

2-PARTITIONED SECURITY SYSTEM

INSTALLATION INSTRUCTIONS

ADEMCO

Principal changes in this issue are indicated by margin lines.

N7526–2V1 4/96

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HOW TO USE THIS MANUAL

This manual is written to accommodate both the new and the experienced installer of Ademco products. A general description of the entire system is located at the beginning of the manual. The wiring and physical setup of the hardware follows.

The sections at the core of the manual include both hardware setup and programming requirements of each device to make that specific device operational in the system. A checkout procedure is included at the end of each section. We recommend this method to ensure that each device is working properly before proceeding to the next section. It must also be used if you are making a particular addition to the system of one of these devices.

Each of the sections covering the installation of peripheral devices includes the programming for that device. Without an understanding of the programming of the system, you will not be able to successfully perform the required programming in each of these sections. We therefore urge you to read *Section 2. Mechanics of Programming* before any programming is performed.

If you are an experienced user of Ademco products, you may choose to wire and then program the entire system at once. If so, refer to *Section 4: Mechanics of Programming* and *Section 19. Data Field Descriptions* after the hardware setup is complete. A blank pull-out programming form is included with this manual.

This manual uses various icons to denote critical notes and technical tips to assist you with the installation of this system. These are easily seen in the left-hand column of the relevant information.

CONVENTIONS USED IN THIS MANUAL

MAIN SECTION TITLES ARE SHOWN IN REVERSE TYPE

Before you begin using this manual, it is important that you understand the meaning of the following symbols (icons).

UL These notes include specific information which must be followed if you are installing this system for a UL Listed application.

These notes include information that you should be aware of before continuing with the installation, and which, if not observed, could result in operational difficulties.

This symbol indicates a critical note that could seriously affect the operation of the system, or could cause damage to the system. Please read each warning carefully. This symbol also denotes warnings about physical harm to the installer.

Enter Zn Num.
(00 = Quit) 01

Many system options are programmed in an interactive mode by responding to Alpha keypad display prompts. These prompts are shown in a double-line box.

*00

When programming the system, data fields are indicated by a "star" (*) followed by the data field number.

PRODUCT MODEL NUMBERS: Unless noted otherwise, references to specific model numbers represent Ademco products.

RECOMMENDATIONS FOR PROPER PROTECTION

The Following Recommendations For The Location Of Fire And Burglary Detection Devices Help Provide Proper Coverage For The Protected Premises.

Recommendations For Smoke And Heat Detectors

With regard to the number and placement of smoke/heat detectors, we subscribe to the recommendations contained in the National Fire Protection Association's (NFPA) Standard #72 noted below.

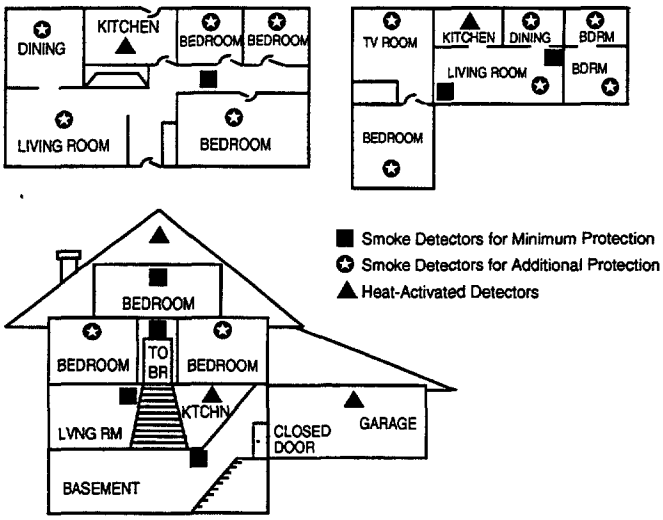
Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: For minimum protection a smoke detector should be installed outside of each separate sleeping area, and on each additional floor of a multi-floor family living unit, including basements. The installation of smoke detectors in kitchens, attics (finished or unfinished), or in garages is not normally recommended.

For additional protection the NFPA recommends that you install heat or smoke detectors in the living room, dining room, bedroom(s), kitchen, hallway(s), attic, furnace room, utility and storage rooms, basements and attached garages.

In addition, we recommend the following:

- Install a smoke detector inside every bedroom where a smoker sleeps.
- Install a smoke detector inside every bedroom where someone sleeps with the door partly or completely closed. Smoke could be blocked by the closed door. Also, an alarm in the hallway outside may not wake up the sleeper if the door is closed.
- Install a smoke detector inside bedrooms where electrical appliances (such as portable heaters, air conditioners or humidifiers) are used.
- Install a smoke detector at both ends of a hallway if the hallway is more than 40 feet (12 meters) long.
- Install smoke detectors in any room where an alarm control is located, or in any room where alarm control connections to an AC source or phone lines are made. If detectors are not so located, a fire within the room could prevent the control from reporting a fire or an intrusion.

THIS CONTROL COMPLIES WITH NFPA REQUIREMENTS FOR TEMPORAL PULSE SOUNDING FOR FIRE NOTIFICATION APPLIANCES.



Recommendations For Proper Intrusion Protection

For proper intrusion coverage, sensors should be located at every possible point of entry to a home or commercial premises. This would include any skylights that may be present, and the upper windows in a multi-level building.

In addition, we recommend that radio backup be used in a security system so that alarm signals can still be sent to the alarm monitoring station in the event that the telephone lines are out of order (alarm signals are normally sent over the phone lines, if connected to an alarm monitoring station).

Section 1. GENERAL DESCRIPTION

The VISTA-20HW is a 2-partition control that supports up to 16 zones using basic hard-wired and wired expansion zones, plus 3 keypad zones.

Basic Hardwired Zones (8)

Provides 8 basic hardwired zones having the following characteristics:

- EOLR supervision supporting N.O. or N.C. sensors
- Programmable response time (10, 350, or 700 milliseconds)
- Individually assignable to either partition
- Up to sixteen 2-wire smoke detectors on zone 1
- 4-wire smoke or heat detectors on zones 2 through 7 (as many as can be powered from AUX power on the control)
- Up to fifty 2-wire latching type glassbreak detectors on zone 8 with auto reset

Optional Wired Expansion Zones (up to 8)

Supports up to 8 additional wired zones using a 4219 expansion module or 4229 expansion/relay module. These zones have the following characteristics:

- EOLR supervision supporting N.O. or N.C. sensors
- 300–500 msec normal response with an option for fast (10–15 msec) response on loop A (first expansion zone)

Two Partitions

- Provides the ability to control two separate areas independently, each area functioning as if it had its own separate control (each with its own Master code and user codes, as programmed)
- Zones assignable to either partition 1 or 2
- Relay and Powerline Carrier device outputs assignable to either partition 1 or 2, or to both partitions
- Certain programmed system options, such as Entry/Exit delay and Subscriber Account number, programmed independently for each partition

UL | In UL installations, the system may be configured as a single partition only.

Remote Keypads

Up to 4 of any of the following keypads may be used in each partition:

Fixed-Word Keypads: 4127*, 4137AD, 6127*, 6137, and 6128.

* These keypads cannot be used if the 4285 VIP (VISTA Interactive Phone) Module is being used.

Alpha Keypads: 5137AD, 6139 (2-line alphanumeric displays)
6138 (1-line alphanumeric display).

For programming from a keypad, a 5137AD or 6139 2-line Alpha keypad must be connected to partition 1 (but need not necessarily stay in the system).

Security Codes

- One installer code for entire system (user 1)
- One Master code for each partition (user 2)
- 12 secondary user codes for each partition (users 3–14)
- One baby-sitter code for each partition (user 15)
- One duress code for each partition (user 16)

Baby-sitter Code: A special code that can only be used to disarm the system if that particular code was used to arm it.
Duress Code: An emergency code which, when entered by *any* user to disarm or arm the system, will send a silent duress message to the central station.

Keypad Panic Keys

- Up to 3 programmable panic key functions are provided.
- Designated as Zones 95, 96, 99.
- Reported separately by partition, distinguished by subscriber ID number

Zone Monitor Feature

- The control will sense a high resistance in the loops on hard-wired zones 2–8 if it is present, and will display a trouble message for the affected zone when the system is in the disarmed mode. This feature also prevents the system from being armed while this high resistance condition exists.

Exit Error False Alarm Prevention Feature

- Enables the system to determine the difference between a regular alarm and an alarm caused by leaving an Entry/Exit or Interior zone open after the exit delay expires. If not disarmed in time, an alarm will sound and an "Exit Error" report sent to the central station.
- An Exit Alarm condition will also occur if an Entry/Exit or Interior zone re-opens within 2 minutes after the end of an exit delay.

Optional Output Relays and Powerline Carrier Devices (X-10 type)

- Up to 4 relays using one 4204 Relay Module
- Up to 2 relays using one 4229 Zone/Relay Module
- Up to 8 Powerline Carrier devices (you must subtract the number of relay outputs actually used by the 4204 or 4229 modules, if used)
- Actions programmable to respond to zone activity or manual keypad entries

Powerline Carrier devices require the use of optional **4300 transformer** module instead of the supplied 1321/TF2 AC transformer.

Optional Keyswitch

- Supports the Ademco **4146 keyswitch** on basic hardwire zone 7. May be assigned to either partition.

Optional 4285 VIP (VISTA Interactive Phone) Module

- Supports the Ademco **4285** VIP (VISTA Interactive Phone) Module on Partition 1 only.
- Provides access to the system via on premises or off-premises phones for arming, disarming, etc., plus control of relay outputs and Powerline Carrier devices.

Audio Alarm Verification (AAV) Option

- Provides a programmable *Audio Alarm Verification* (AAV) option which can be used in conjunction with an output relay to permit voice dialog between an operator at the central station and a person at the premises.
- Requires the use of an optional AAV unit, such as Eagle model 1241.

UL

The AAV option may not be used in UL installations.

Optional Long Range Radio

- Allows all messages that have been programmed to go to the primary telephone number to be reported additionally to a 7720 PLUS or 7820 radio. *Check availability of these models.*

Built-in Telephone Line Monitoring Option

- The telephone line voltage can be monitored to supervise the phone line connection. **The panel must be connected to a proper earth ground or you will get a false line cut indication if this feature is enabled.**
- The loss of the line can optionally cause a local display, or a display and trouble sound.

Event Logging

- Event Logging feature keeps a record of selected events in a history log (up to 48 events). All control and readout from the log is done via Ademco V-LINK® downloading software **only**.

Alarm Output

- Provides a 12VDC, 2 AMP output that can drive the compatible sounders listed in the *EXTERNAL SOUNDERS* section (assumes a fully charged battery is connected).
- Steady output for Burglary/Panic, or temporal pulse output (3 pulses – pause – 3 pulses – pause – 3 pulses. . .) for Fire
- Uses current limiting circuitry for protection

Auxiliary Power Output

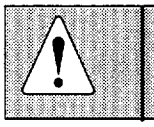
- Provides 12VDC, 600 mA maximum. Uses current limiting circuitry for protection.
- This output interrupts for smoke detector reset if 4-wire smoke detectors are used.

Programming

- Programmed options are stored in electrically erasable, non-volatile EEROM memory (information can be reprogrammed at any time and will not be lost in the event of a power loss).
- The system can be uploaded, downloaded, or controlled via an IBM compatible computer, Ademco V-LINK® downloading software and a HAYES modem specified by Ademco.

Keypad programming consists of:

- Data field programming
- Interactive (menu) mode programming



For programming from a keypad, a 5137AD or 6139 2-line Alpha keypad must be connected to partition 1 (but need not necessarily stay in the system).

Communication Formats Supported

- Ademco Low Speed (Standard or Expanded)
- Sescoa/Radionics (Standard or Expanded)
- Ademco Express
- Ademco Contact ID

Zone Descriptors

You can assign Alpha descriptors to all zones (useful only when using Alpha keypads and/or the 4285 VIP (VISTA Interactive Phone) module.

AC Power Supply

Uses **1321/TF2,** 110VAC plug-in transformer with 16.5VAC 25VA output,, unless Powerline Carrier devices (ex. X-10 type) are used, in which case a **4300 transformer module** must be used.

Back-Up Battery

- Rechargeable (Gel type) 12VDC, 4AH minimum (Ademco No. 467).

Section 2. INSTALLING THE CONTROL

This section provides instructions for mounting the control cabinet, and installing the cabinet lock (if used). Also included in this section are instructions for the following:

- Installing the main PC board.
- Standard phone line connections.
- Installing the back-up battery in the cabinet.
- Connecting the AC transformer.
- Making earth ground connections.

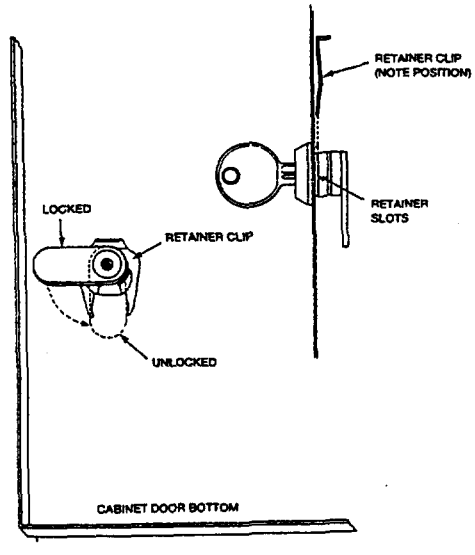
Mounting the Cabinet

Mount the control cabinet to a sturdy wall using fasteners or anchors (not supplied), in a clean, dry area which is not readily accessible to the general public. Four mounting holes are provided at the back of the cabinet.

Installing the Lock (if used)

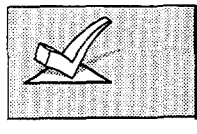
Use an Ademco No. N6277 Cam Lock and No. N6277–1 Push-On Clip (Retainer Clip).

Note: The cabinet can be closed and secured *without* a lock by using 2 screws in the cover's edge.



1. Remove the cabinet door. *It is easily removable for servicing and is easily re-installed.*
2. Remove the lock knockout from the control cabinet door. Insert the key into the lock. Position the lock in the hole making certain that the latch will make contact with the latch bracket when the door is closed.
3. Hold the lock steady, and insert the retainer clip into the retainer slots. Position the clip as illustrated in order to permit easy removal.

Figure 1. Installing The Cabinet Lock



Before installing the cabinet's contents, remove the metal cabinet knock-outs required for wiring entry. Do not attempt to remove the knockouts after the circuit board has been installed.

Mounting The Control's Circuit Board In The Cabinet (Fig. 2)

1. Hang two *short Black* mounting clips (provided) on the raised cabinet tabs (see Detail B in Fig. 2).
2. Insert the top of the circuit board into the slots at the top of the cabinet. Make sure that the board rests on the correct row (see Detail A).
3. Swing the base of the board into the mounting clips and secure the board to the cabinet with the accompanying screws (see Detail B in Fig. 2).

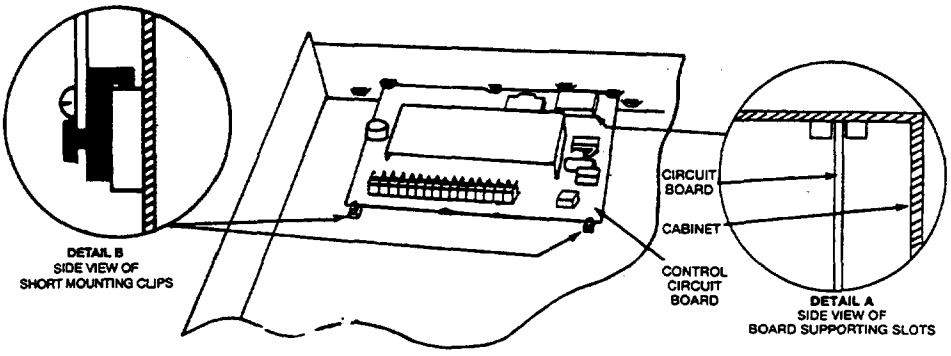


Figure 2. Mounting The PC Board In The Cabinet

Standard Phone Line Connections

The wiring connections shown here are not applicable if the 4285 module is used. Refer to the 4285 VIP (VISTA Interactive Phone) module section for information regarding phone line connections, which are different than those shown here.

Incoming phone line and handset wiring is connected to the main terminal block (via a RJ31X jack) as follows (also see Figure 3):

Term. 21: Local Handset (TIP – Brown*)
Term. 22: Local Handset (RING – Gray*)
Term. 23: Incoming Phone Line (TIP – Green*)
Term. 24: Incoming Phone Line (RING – Red*)

* Colors of wires in Direct Connect Cord.

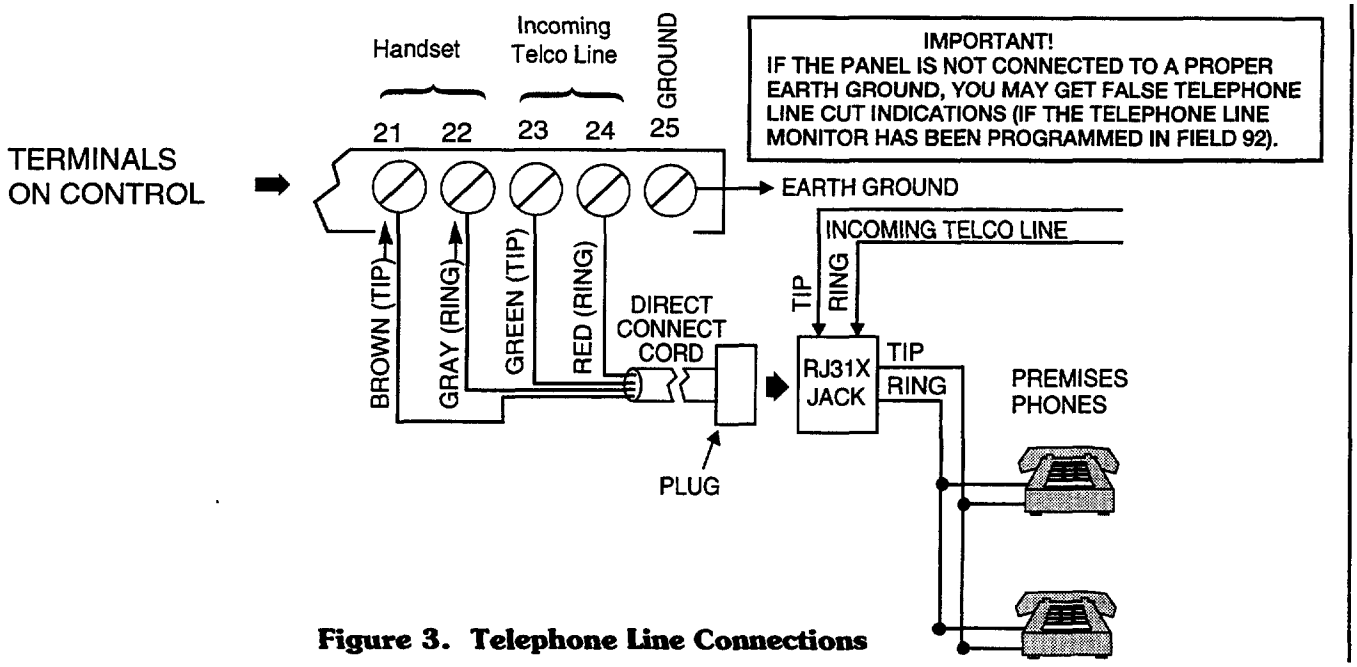


Figure 3. Telephone Line Connections

Wiring The AC Transformer

1321/TF2 Wire the 1321/TF2 transformer to terminals **1** and **2** on the control board. See wiring table below for wire gauge to use.

Caution must be taken when wiring the transformer to the control panel to guard against blowing the fuse inside the transformer (the fuse is non-replaceable).

4300 If you are going to use a 4300 transformer interface (required if Powerline Carrier devices are going to be used), connect the 4300 transformer's terminals as follows:

a. Terminals **1, 3** (AC), and **2** (Ground) to control board terminals **1, 2,** and **25,** respectively (see Figure 5). See wiring table below for wire gauge to use.

WIRING TABLE	
Distance of Transformer From the Control Panel	**Wire Gauge To Use**
Up to 50 feet	# 20
50–100 feet	# 18
100-250 feet	# 16

Wiring to the AC Transformer must not exceed 250 feet using 16 gauge wire. The voltage reading between terminals 1 and 2 of the control must not fall below 16.5VAC or an "AC LOSS" message will be displayed.

Do not plug the transformer into the AC outlet until you are instructed to do so later in the manual.

b. Wire the other three terminals (Sync, Data, Com) on the 4300 transformer. Wires from these terminals must be connected to a 9-pin connector on the control board (using a 4142TR cable supplied with the 4300 transformer), as shown in Figure 4. These particular wires can be 24 gauge or larger, and can be run along with the AC and ground wires to the control panel.

The complete wiring for the 4300 transformer is also covered in *Section 7. RELAY OUTPUTS & POWERLINE CARRIER DEVICES.*

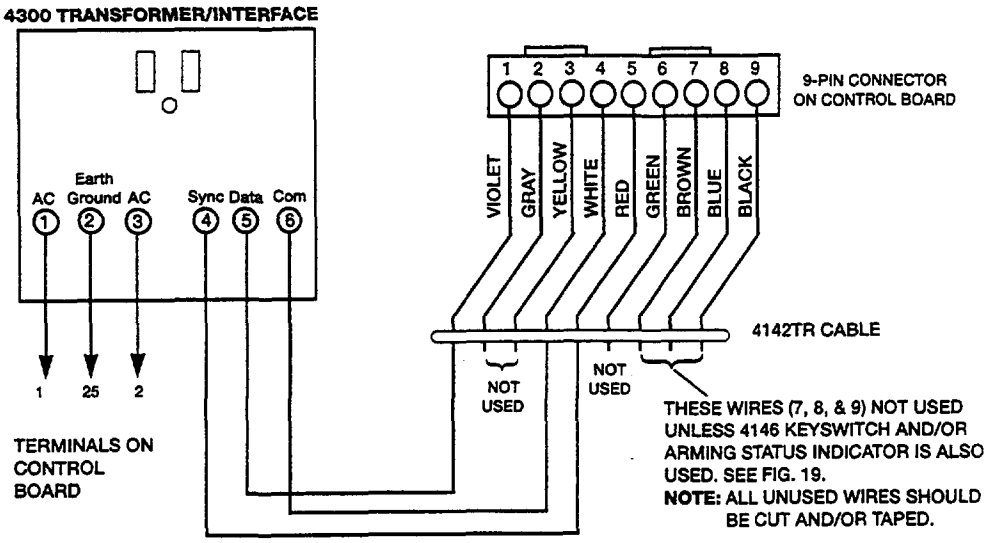


Figure 4. Connections of 4300 Transformer To The Control Board

Installing The Back-Up Battery

If necessary, refer to *Section 13. FINAL POWER UP* for information regarding battery size to use, etc.

Do not attach the connector cable to the battery terminals until you are instructed to do so later in the manual.

1. Place the 12-volt back-up battery in the control cabinet.
2. Attach Red and Black wires on the battery connector cable as follows:
   a. Red to the positive (+) battery terminal **on the control board** (see Summary of Connections Diagram for location, if necessary).
   b. Black to the negative (–) battery terminal **on the control board.**

UL Use a 4AH battery or larger for UL installations.

Earth Ground Connections

The designated earth ground terminal **(25),** must be terminated in a good earth ground for the lightning transient protective devices in this product to be effective. The following are examples of good earth grounds available at most installations:

Metal Cold Water Pipe: Use a non-corrosive metal strap (copper is recommended) firmly secured to the pipe to which the ground lead is electrically connected and secured.

AC Power Outlet Ground: Available from 3-prong, 120VAC, power outlets only. To test the integrity of the ground terminal, use a three-wire circuit tester with neon lamp indicators, such as the UL-Listed Ideal Model 61–035, or equivalent, available at most electrical supply stores.

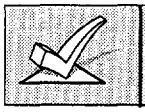
Section 3. INSTALLING REMOTE KEYPADS

This section lists the wired keypads that may be used and provides instructions for wiring and mounting the keypads.

A preliminary check-out procedure is also provided to ensure that the connected keypads are functioning properly in the system.

Keypads That May Be Used

- Fixed-Word Display: 4137AD, 4127, 6127, 6128, 6137
- Alpha Display: 5137AD, 6138, 6139
- Up to 4 keypads in each partition (total of 8 in the system), independent of auxiliary power considerations (you may need to use an auxiliary power supply if the 600mA auxiliary output is exceeded)



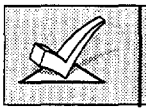
If you are going to use a 4285 VIP (VISTA Interactive Phone) module, you MUST use addressable keypads (4137AD, 5137AD, 6128, 6137, 6138, 6139) in the system, but set to the non-addressable mode (address 31).

Wiring To The Keypads

1. Determine wire gauge by referring to the wiring length/gauge chart below. Wire lengths/gauge for Partition 2 keypads should be determined separately from those keypads connected to Partition 1.

   For devices (Keypads, Zone Expander, 4285 Module, etc.) connected to a single 4-wire run, determine the current drawn by all units connected to the single wire run, then refer to the Wiring Run chart to determine the maximum wire length that can be safely used for each wire size. Current draw for all devices can be found in the SPECIFICATIONS AND ACCESSORIES section.

   Note: Refer to "Auxiliary Device Current Draw Worksheet" in *Section 13. FINAL POWER UP* for current draw for all keypads.



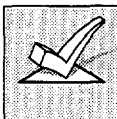
Maximum wire lengths for any device that is homerun to the control can also be determined from the chart, based on the current draw of that device alone.

2. Run field wiring from the control to the keypads (using standard 4-conductor twisted wire cable using the wire gauge determined in step 1).

Wiring Run Chart For Devices* Drawing Aux Power From The Control (12V+ & 12V–)

	TOTAL CURRENT DRAWN BY ALL DEVICES CONNECTED TO A SINGLE WIRE RUN				
Wire Size	**50 mA or less**	**100 mA**	**300 mA**	**500 mA**	**600 mA**
#22	500 ft (152m)	250 ft (76m)	80 ft (24m)	50 ft (15m)	42 ft (13m)
#20	750 ft (228.6m)	380 ft (116m)	130 ft (39.6m)	80 ft (24m)	67 ft (20.4m)
#18	1300 ft (396m)	650 ft (198m)	220 ft (67m)	130 ft (39.6m)	115 ft (35m)
#16	1500 ft (457m)	1000 ft (305m)	330 ft (100.5m)	200 ft (70m)	170 ft (52m)

* Includes Keypads, Zone Expander/Relay Units, or 4285 Module.



The length of all wire runs for both partitions combined must not exceed 1500 feet (457m) when unshielded quad conductor cable is used (750 feet if shielded cable is used). This restriction is due to the capacitive effect *on the data lines* when quad cable is used.

3. Connect remote Keypads for Partition 1 to terminals 4, 5, 6, and 7 on the control board, as shown in Figure 5.
4. Connect remote Keypads for Partition 2 to the 4-pin connector on the control board (see the Summary of Connections diagram for location of the 4-pin connector for partition 2).

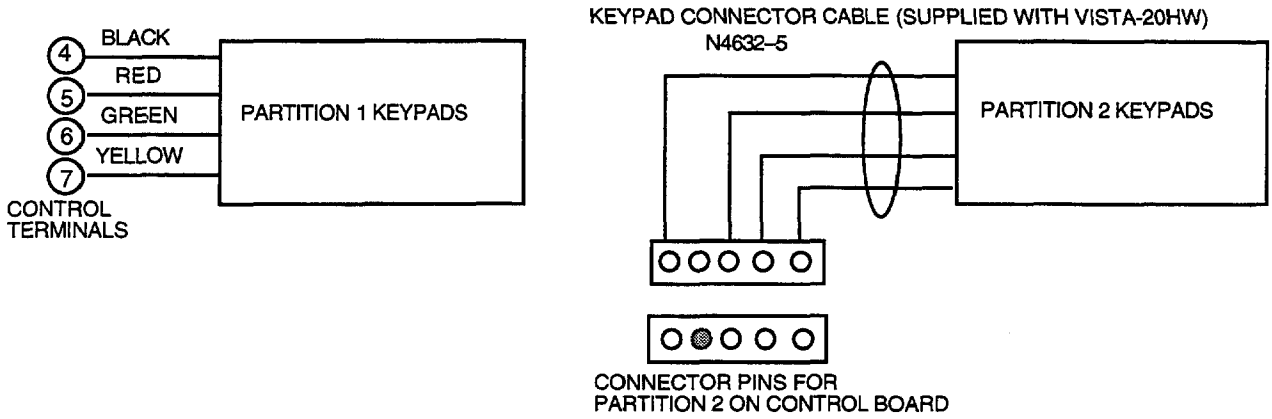


Figure 5. Keypad Connections To The Control Board

Mounting the Keypads

1. **Make sure addressable type keypads** (4137AD, 5137AD, 6128, 6137, 6138, and 6139) are set to non-addressable mode (address 31), which is the factory default setting. Refer to the instructions provided with the keypad for address setting procedure.
2. **Mount the keypads** at a height that is convenient for the user. Refer to the instructions provided with the keypad for mounting procedure.

   You can either surface mount or flush mount keypads (using an appropriate Trim Ring Kit: 5137TRK or 6139TRK). Refer to the mounting instructions and template included with the keypad and/or trim ring kit for specific information.

Using a Supplementary Power Supply to Power Additional Keypads

The control provides 600mA for powering keypads (up to a maximum of 4 per partition) and other devices from the auxiliary power output. The backup battery will supply power to these keypads in the event that AC power is lost.

When the control's auxiliary power load for all devices exceeds 600 mA, you can power additional keypads from a regulated, 12VDC power supply (e.g., 487–12 supplies 12V, 250mA; 488–12 supplies 12V, 500mA). Use a UL Listed, battery-backed supply for UL installations.

The 487–12/488–12 power supplies have a backup battery which can power these keypads in the event of AC power loss.

Keypads powered from supplies which do not have a backup battery **will not function** when AC power is lost. Therefore, be sure to power at least one keypad **in each partition** from the Control's auxiliary power output.

Connect the additional keypads as shown in Figure 6, using the keypad wire colors shown. Be sure to observe the current ratings for the power supply used.

Make connections directly to the screw terminals as shown in Figure 6. Make no connection to the keypad blue wire (if present).

Be sure to connect the negative (–) terminal on the Power Supply unit to terminal 4 (AUX –) on the control.

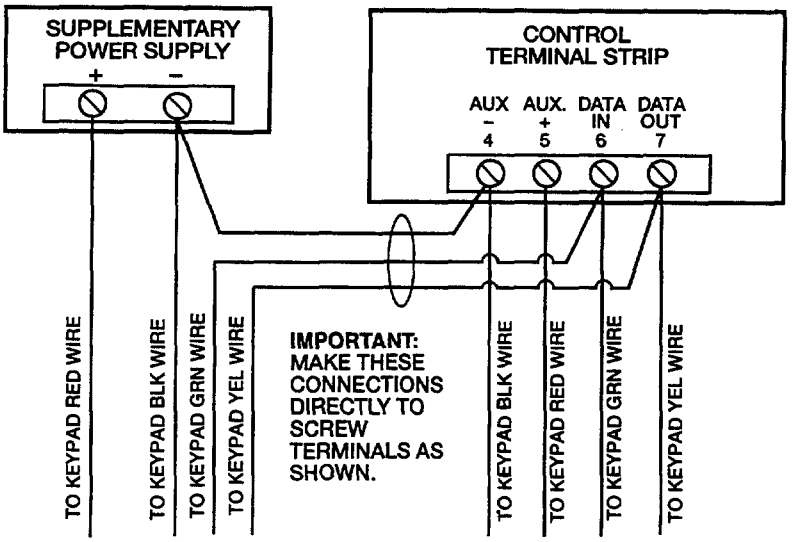


Figure 6. Using A Supplementary Power Supply For Keypads

Preliminary Check-out Procedure

If you want to check that the system is working before connecting field wiring from zones and devices, do the following:

1. Temporarily connect a 2000 ohm end-of-line resistor across each of the basic hard-wire zones 1–8, as shown in the Summary of Connections diagram.

   Without actual zone wiring or EOL resistors connected, the keypads in each partition of the system will not display the "Ready" message.

2. Power up the system temporarily by plugging the AC transformer (previously wired to the control) into a 120VAC outlet.

3. **Busy – Standby** (Alpha keypads) or **dI** (Fixed-word keypads) will be displayed.

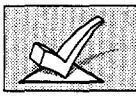
   After approximately 1 minute*, the green "READY" LED (or "POWER" LED on some types of keypads) should light, and the word **READY** (Fixed-word keypads), or **DISARMED...READY TO ARM** (Alpha keypads) should be displayed.

   * To bypass the 1-minute delay, press **#** plus **0**.

   If the "Ready" display does not appear on any of the keypads in the system (in either of the partitions), or a "Not Ready" message is displayed, check the keypad wiring connections, and make sure each of the 8 basic hard-wired zones has a 2000 ohm resistor connected across its terminals.

4. When you get the proper "Ready" displays on the keypad(s), the system is functioning properly at this point.

   Do not remove the EOL resistors until you are ready to make connections to the hard-wired zones, to allow for testing later in the manual.



If an OC or OPEN CIRCUIT is present on the keypad, data from the control is not reaching the keypad. Please check the wiring.

Section 4. MECHANICS OF PROGRAMMING

This section provides information on how programming is performed in this system. It will enable you to understand how to enter and exit the programming mode, and how to program the data fields and the user-friendly interactive modes (*56, *80, *81, *82, *83). We therefore urge you to read and understand the following before proceeding with the installation.

If wired expansion, or a keyswitch will be used, the following data fields **must be** programmed (as required) before doing any zone programming. Refer to the end of this section for instructions on programming these fields.

*25. WIRED ZONE EXPANSION
*30. KEYSWITCH ENABLE

In addition, the following fields must be programmed before completing the installation. Explanations of these fields are found in *Section 19. DATA FIELD DESCRIPTIONS.*

*20. INSTALLER CODE
*21. QUICK ARM ENABLE
*23. FORCED BYPASS **(must be disabled for UL installations, enter "0").**

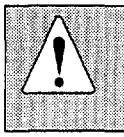
General Programming Information

Characteristics for each installation are stored in non-removable, electrically erasable, non-volatile EEROM memory. These must be programmed for the particular installation to establish its specific alarm and reporting features.

It is possible to program the system at any time, even at the installer's premises prior to the actual installation. Simply apply power temporarily to the control and then program the unit as desired.

Important Note: **You cannot enter the programming mode unless <u>both</u> partitions are disarmed.**

There are two programming modes: data field programming and interactive (menu) mode programming. Data field programming is used for setting various system options and interactive programming is used for programming zone information, programming relay outputs, and for learning transmitter serial numbers.



To program the system, you must use a 5137AD or 6139 2-line Alpha keypad connected to the Partition 1 keypad terminals on the control (4, 5, 6, & 7). **Also, both partitions must be disarmed.** The Alpha keypad need not necessarily remain in the system after programming.

Programming can also be performed remotely from the installer's office/home, using an IBM personal computer, a modem, and V-Link downloading software. See the *Section 18. REMOTE PROGRAMMING AND CONTROL (DOWNLOADING).*

Entering Program Mode

You may use one of the following methods:

a) Press both the **[*]** and **[#]** keys at the same time **within 50 seconds after power is applied to the Control,** or

b) After power up, enter the Installer code **(4 1 1 2) + 8 0 0.**

This method is disabled if you exit the program mode using *98 instead of *99. See "Exiting Program Mode" paragraph later in this section.

If a different Installer code is subsequently programmed, use it instead of 4112 to gain access to the Programming mode.

Following entry into program mode, data field *20 will be displayed (this is the first field in the system). The system will now accept entries for field *20.

Programming a Data Field

1. Press **[*]** plus **Field No.** (for example, *21), then make the required entry.
2. When you have completely programmed a data field, the keypad will "beep" three times and then automatically display the next data field in sequence. To go to a different field, press **[*]** plus the desired field No.

3. If the number of digits that you need to enter in a data field is less than the maximum digits available (for example, the phone number field), enter the desired data, then press * and the next data field number to be programmed.
4. If you try to enter a non-existent field, the keypad will display **EE or Entry Error**. Simply re-enter [*] plus a valid field number.

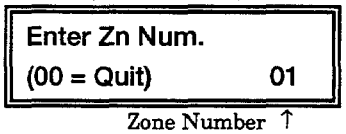
Reviewing a Data Field/Erasing an Entry in a Data Field

Press [#] plus **Field No.** Data will be displayed for that field number. **No changes will be accepted in this mode.**

To delete an entry in a field, press [*] plus **Field No. + [*].** (Applies only to fields *40–*46, and *94).

Interactive Mode Programming (*56, *80, *81, and *82)

Typical prompt displayed during interactive mode programming



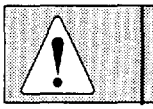
Press [*] plus **interactive mode No.** (for example, *56). The Alpha keypad will display the first of a series of prompts requesting entries.

A detailed procedure (with displays of prompts) is provided in those sections where programming in the interactive mode is to be performed.

Interactive Mode	Used To Program
*56 Zone Programming	Zone characteristics, report codes, alpha descriptors and serial numbers
*80 Relay Programming	4229 or 4204 Relay modules, or Powerline Carrier devices
*81 Zone List Programming	Zone Lists for relay/powerline carrier activation
*82 Alpha Programming	Zone alpha descriptors

Loading Factory Defaults

To load the factory defaults, enter the programming mode, press *97, then exit the programming mode.



Do not press *97 to load defaults if any programming has been done previously—data already programmed into the system will be changed!

***96** resets the Subscriber Account number and CSID in preparation for an initial download.

Programming System Setup Fields

The following program fields **must be** programmed before doing any zone programming.

***25 WIRED ZONE EXPANSION** ☐

Use this field to select the type of expansion unit being used, as follows: 0 = none; 1 = 4219; 2 = 4229; 3 = 4204. Default is **0.**

***30 KEYSWITCH ENABLE** ☐

This field must be enabled (enter 1) if using a keyswitch. The keyswitch must be connected to zone 7, which can then not be used for any other purpose. Default is **0** (no keyswitch).

Note: If keyswitch is enabled, in menu mode *56 the Zone Type (ZT) for zone 7 will show "77", and will not be accessible for programming.

Exiting the Programming Mode

***99** allows re-entry into the program mode using **Installer Code + 8 0 0.**

***98** inhibits re-entry into the programming mode using the Installer code.

Section 5. BASIC HARD-WIRED ZONES 1–8

This section provides general information for the hard-wired zones in the system, plus specific instructions for installing 2-wire smoke detectors, 4-wire smoke/combustion detectors, and 2-wire latching type glass break detectors. Also included is a procedure for programming the hard-wired zones.

Installing the Hard-Wired Zones

Common Characteristics for Zones 1–8

- Can be assigned to any partition
- EOLR supervised zones supporting both open circuit and closed circuit devices
- As many 4-wire smoke detectors as can be powered from Aux Power on the control (zones 2–7)
- Programmable for 10, 350, or 700 msec response
- 350 msec (default) should be used for most standard contacts. For vibration type contacts, 10 msec is more suitable

Wiring Burglary and Panic Devices To Zones 1–8

1. Connect sensors/contacts to the hard-wired zone terminals (terminals 8 through 20). See the Summary of Connections diagram .
2. Connect closed circuit devices in series in the high (+) side the loop. The EOL resistor must be connected in series with the devices, following the last device. See the Summary of Connections diagram.
3. Connect open circuit devices in parallel across the loop. The 2,000 ohm EOLR must be connected across the loop wires *at the last device.*

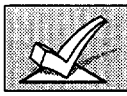
If the EOLR is not at the end of the loop, the zone will not be properly supervised, and the system may not respond to an open circuit on the zone.

High Resistance Supervision on Hard-Wired Zones 2–8

- Special supervision in the control senses high resistance on hard-wired zone loops 2–8, causing a warning "CHECK" display with the affected zone number to occur when the system is in the disarmed state. *The system cannot be armed when this display is present.* If the system is in the armed state when the high resistance condition occurs, no display will take place until the system is disarmed.

Wiring 2-Wire Smoke Detectors To Zone 1

1. Connect 2-wire smoke detectors across zone 1 terminals 8 (+) and 9 (–). Observe proper polarity when connecting the detectors (see Figure 7).
2. If an EOL resistor is presently connected across zone 1 terminals, remove it. **The EOL resistor must be connected across the loop wires at the last detector.**
3. See "Programming Hard-Wired Zones" later in this section for a detailed programming procedure.



The alarm current provided by zone 1 will support only one smoke detector in the alarmed state.

UL

In UL installations, only zone 1 may be used as a Fire zone. In addition, an Ademco Model 610–7 must be used as an End-of -Line resistor at the last detector.

"Verify" Operation of 2-Wire Smoke Detectors in Zone 1

The control panel will "verify" any alarm by resetting the smoke detectors after the first alarm trigger, and then waiting 90 seconds for a second alarm trigger. If the smoke detector or thermostat does not trigger again, the control will disregard the first trigger, and no alarm signal will occur. This feature eliminates false alarms due to electrical or physical transients. The verify feature is available on zone 1 only.

This feature is available only on units that report to the downloader as Rev 4 or higher.

Turning Off Fire Alarm Sounding

You can turn off Fire alarm sounding by pressing the OFF key on any keypad or other arming/disarming device in that partition. To clear the "memory of alarm" and to reset the detector's alarm, enter the security code plus OFF again.

Compatible 2-Wire Smoke Detectors	
Detector Type	**Device Model #**
Photoelectric w/heat sensor, direct wire	System Sensor 2300T
Photoelectric, direct wire	System Sensor 2400
Photoelectric w/heat sensor, direct wire	System Sensor 2400TH
Photoelectric w/B401B base	System Sensor 2451
Photoelectric w/heat sensor & B401Bbase	System Sensor 2451TH
Ionization, direct wire	System Sensor 1400
Ionization w/B401B base	System Sensor 1451
Photoelectric duct detector w/DH400 base	System Sensor 2451
Ionization duct detect. w/DH400 base	System Sensor 1451DH

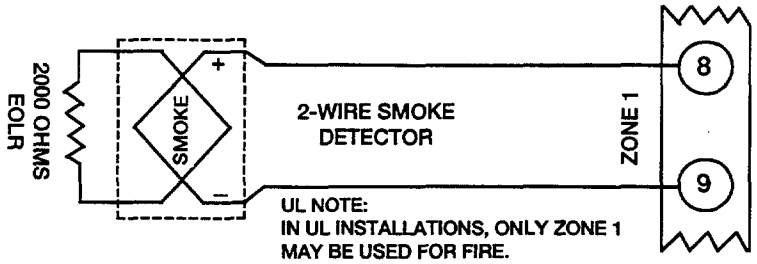
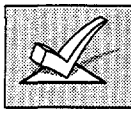


Figure 7. 2-Wire Smoke Detector Connected to Zone 1

Wiring 4-Wire Smoke/Combustion Detectors on Zones 2–7

The system will support as many 4-wire detectors as can be powered from Auxiliary Power on the control on zones 2–7. Refer to the detector's instructions for complete details regarding its proper installation and operation.

1. Connect 12 volt power for the detectors from Auxiliary Power terminals 4 and 5, (which will interrupt power for fire alarm reset). Observe proper polarity when connecting detectors.
2. Connect detectors (including heat detectors, if used) across terminals of the zone selected (zones 2–7 may be used). All detectors must be wired in parallel.



Remove 2000 ohm EOL resistor if connected across the selected zone terminals. You must connect the EOL resistor across the loop wires at the last detector.

3. To supervise power, we recommend the use of a System Sensor No. A77-716B supervisory module.

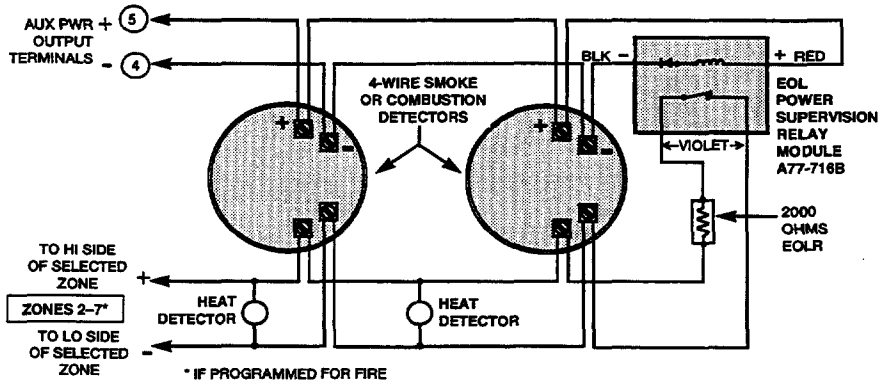


Figure 8. 4-wire Smoke Detector Connections (Zones 2–7)

COMPATIBLE 4-WIRE SMOKE/COMBUSTION DETECTORS	
1412	*System Sensor*, 4-wire ionization products of combustion detector
2412	*System Sensor*, 4-wire photoelectric smoke detector
2412TH	*System Sensor*, 4-wire photoelectric smoke detector w/135º F (57º C) heat detector
A77-716B	*System Sensor*, EOL relay module (supervisory module for wired 4-wire fire zone).
2112/24T	*System Sensor* low-profile 4-wire photoelectric smoke detector w/135º F (57º C) heat detector

Wiring 2-Wire Latching Glass Break Detectors On Zone 8

Use zone 8 for connection of compatible 2-wire latching-type glass break detectors.

After an alarm, the first code + OFF turns off the siren and disarms the system; the second code + OFF clears the memory of alarm and resets the glassbreak detector.

1. Connect all detectors in parallel across zone 8 (terminals **19** and **20**).

Remove 2000 ohm EOL resistor if connected across the selected zone terminals. You must connect the EOL resistor across the loop wires at the last detector.

Compatible Glass Break Detectors

Use detectors that meet the following ratings:

Standby Voltage:	5VDC–13.8VDC
Standby Resistance:	Greater than 20k ohms (equivalent resistance of all detectors in parallel)
Alarm Resistance:	Less than 1.1k ohms (see note below)
Alarm Current:	2 mA–10 mA
Reset Time:	Less than 6 seconds

The **IEI 735L series detectors** have been tested and found to be compatible with these ratings. You can use up to fifty IEI 735L detectors, connected in parallel.

You should note that only one detector in the alarmed state can be supported by the alarm current provided by zone 8.

You can use detectors which exceed 1.1k ohms in alarm, provided they maintain a voltage drop in alarm of less than 3.8 volts.

Do not use other N.O. or N.C. contacts when using glass break detectors on zone 8. Other contacts may prevent proper glass break detector operation.

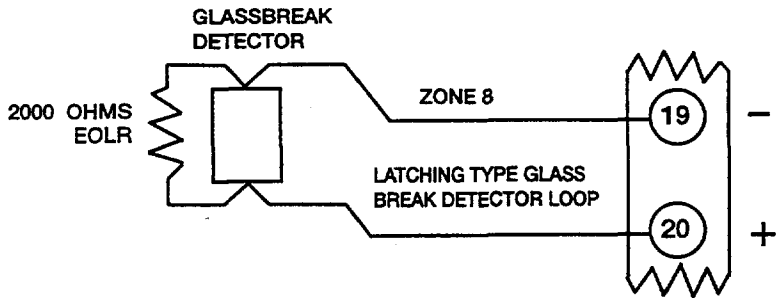
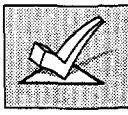


Figure 9. Glass Break Detector Connections To Zone 8

Programming Hard-Wired Zones

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 + 0 + 0.**
   Note that it is not possible to enter the programming mode if Partition 2 is in an armed state.



If wired expansion, or a keyswitch will be used, data fields *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

3. **Press *56.** Note that this is an interactive programming mode. You will use it to program zone numbers, zone types, partition numbers, alarm report codes, and to program response times for hard-wired zones.

```
Enter Zn Num.
(00 = Quit)          01
```
Zone Number ↑

Upon entering *56 mode, this prompt will be displayed. Enter the first zone number that you wish to program (or [0][0] to exit zone programming). If you are starting with zone 2, enter "02". Press * to continue.

Typical summary display

```
Zn  ZT  P  RC  In   RT
02  03  1  00 HW:  1
```

A summary display will appear, showing the present status of that zone's programming.
Zn = zone number;
ZT = zone type;
P = partition to which zone is assigned;
RC = report code for that zone;
In = input type of zone;
RT = response time for that zone.
Values displayed are currently programmed values.

If it is programmed satisfactorily, press [#] to back up one step and enter the next zone number, if desired.

If you want to change a zone's programming, press [*]. A prompt for Zone Type will appear.

↓ Zone Number

```
02 Zone Type
Perimeter            03
```
Zone Type ↑

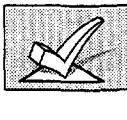
Each zone must be assigned a zone type, which defines the way in which the system responds to faults in that zone. A detailed explanation of each zone type is provided in "Response Type Definitions" in *Section 16. ZONE RESPONSE TYPE DEFINITIONS.*

Enter the desired zone type code, as listed below.

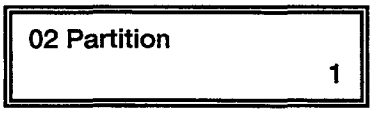
00 = Zone Not Used	07 = 24 Hr Audible
01 = Entry/Exit #1	08 = 24 Hr Aux
02 = Entry/Exit #2	09 = Fire (W/verif.)*
03 = Perimeter	10 = Interior w/Delay
04 = Interior Follower	23 = No Alarm Response
05 = Trouble Day/Alarm Night	24 = Silent Burglary
06 = 24 Hr Silent	

* The "verification" feature is only active when zone type 09 is assigned to hard-wired zone 1.

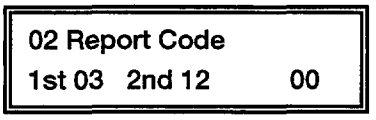
When the display shows the zone type you want, press [*] to continue.



You must enter "00" as the **zone type** for any hard-wired zones that are not used.



Enter the partition to which this zone is assigned, "1" or "2". The factory default is partition 1. Press [*] to continue.



The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C". Refer to *Section 15. SYSTEM COMMUNICATION* for complete information on report codes, if necessary.

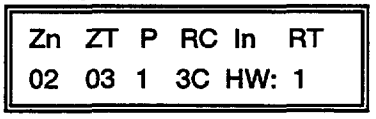
Enter the desired report code and then press [*] to continue.

Enter the desired response time for the zone. The factory default is "1".

Selections available are: "0" = 10 msec, "1" = 350 msec, or "2" = 700 msec.

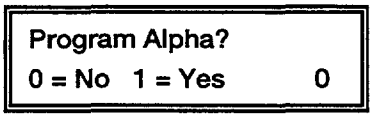
Press [*] to continue.

Typical summary display



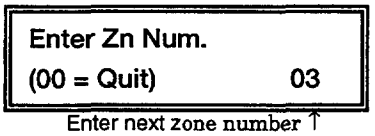
A summary display will appear, showing the data for the zone that was just programmed.

If it is programmed satisfactorily, press [*] to continue.



The next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1) or may be done at a later time using *82 interactive mode (enter 0). We recommend that the entry of Alpha descriptors be done using *82 mode.

See Section 14. ALPHA DESCRIPTION PROGRAMMING for specific procedure



Enter next zone number ↑

If "0" (no) was entered above, the system will return to the Enter Zone Number prompt. Proceed with the programming for the next zone, as indicated previously.

When you have programmed all the hard-wired zones satisfactorily, exit *56 interactive mode at the **Enter Zn Num.** prompt by pressing: **[0] [0] ***

Then exit the programming mode by keying ***99**.

Proceed to the check-out procedure that follows.

Check-Out Procedure For Hard-Wired Zones

After installation of all hard-wired devices is completed, *each* partition of the security system should be checked, as follows.

1. Make certain that all devices and sensors connected to the hard-wired zones are not in a faulted state. Doors and windows with contacts should be closed, PIRs should be covered (use a cloth to mask them temporarily if necessary).
2. Plug in the AC Transformer if you have not already done so..
3. With all hard-wired zones intact, the Alpha keypad connected to the system should display:

   DISARMED
   READY TO ARM.

   If the following is displayed,

   DISARMED Press *
   to show faults

   press the [*] key to display the faulted zone(s). Restore any faulted zone(s) as necessary (also make sure that you have connected a 2000 ohm EOL resistor across the terminals of unused zones).

   When the DISARMED...READY TO ARM message is displayed, you can proceed to the next step.
4. Fault and then restore every contact or sensor on each zone individually to ensure that it is being monitored by the system. Each time a zone is faulted, the keypad should display the number of the faulted zone. When each zone is restored, the READY TO ARM message should appear again.

   If some hard-wired zones have been assigned to partition 1 and others to partition 2, you will need to observe the keypad in the appropriate partition as each zone in that partition is faulted and restored.
5. When you get the proper displays on the keypad(s), the hard-wired zones in the system are functioning properly.
6. Unplug the AC transformer.

Section 6. WIRED ZONE EXPANSION

This section provides information regarding the use of expansion modules for expanding the number of wired zones in the system, the modules that can be used and their wiring connections, plus a procedure for programming the wired expansion zones.

Installing Zone Expansion Units

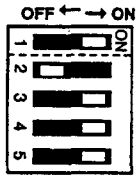
You can add an additional 8 wired EOLR zones to the basic control's 8 zones, for a total of 16 wired zones, by using a **No. 4219 Wired Expansion Unit**, or **4229 Wired Expansion/Relay Unit**.

Location
- You can mount an expansion unit within the control cabinet if space permits. Otherwise, mount the unit outside the cabinet.

Supervision
- Units are supervised against removal. Keypads will display **CHECK** and zone **09** if a zone expander is disconnected.
- Units have tamper protection for security when mounted outside of the cabinet.

Zone Information
- Assign zone numbers 10–17 for the eight wired expansion loops (designated A to H). You can program these zones individually (in *56 interactive mode) for Partition 1 or 2. See "Programming Wired Expansion Zones" later in this section.

Connections and Set-Up



1. Connect the 4219 or 4229 module to the control's keypad terminals (see diagram below).
2. **Set the 4219 or 4229's DIP switch for device address "1"** (switch 2 "OFF" and switches 3, 4, 5 "ON"). Switch 1 determines expansion zone A's response time ("ON" = normal response, "OFF" = fast response). For location of the DIP switch in the unit, see the diagram below (location of DIP switch for both units is in the same location).

   For additional information, see instructions supplied with the 4219 and 4229.

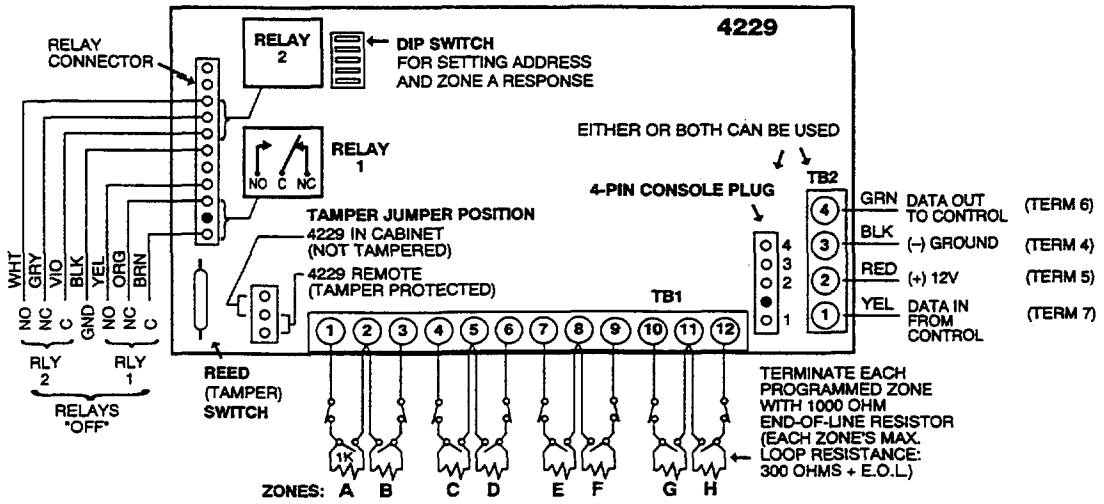
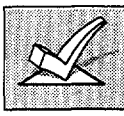

4229
RELAY CONNECTOR
RELAY 2
DIP SWITCH FOR SETTING ADDRESS AND ZONE A RESPONSE
EITHER OR BOTH CAN BE USED
RELAY 1
NO C NC
TB2
4-PIN CONSOLE PLUG
TAMPER JUMPER POSITION
4229 IN CABINET (NOT TAMPERED)
4229 REMOTE (TAMPER PROTECTED)
TB1
GRN DATA OUT TO CONTROL (TERM 6)
BLK (-) GROUND (TERM 4)
RED (+) 12V (TERM 5)
YEL DATA IN FROM CONTROL (TERM 7)
WHT GRY VIO BLK YEL ORG BRN
NO NC C GND NO NC C
RLY 2
RLY 1
RELAYS "OFF"
REED (TAMPER) SWITCH
TERMINATE EACH PROGRAMMED ZONE WITH 1000 OHM END-OF-LINE RESISTOR (EACH ZONE'S MAX. LOOP RESISTANCE: 300 OHMS + E.O.L.)
1K
ZONES: A B C D E F G H

Figure 10. Wiring Connections, 4219 & 4229 (4229 shown)

Programming Wired Expansion Zones

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 + 0 + 0.**



If wired expansion, or a keyswitch will be used, data fields *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

3. **Press *56.** Note that this is an interactive programming mode. It is used to program zone numbers, zone types, partition numbers, and alarm report codes for all zones that are going to be used.

```
Enter Zn Num.
(00 = Quit)          10
```
Zone Number ↑

Enter the first zone number that you wish to program (or [0][0] to exit zone programming). Normally, you will be starting with zone 10, so enter "10". Press [*] to continue.

```
Zn  ZT  P  RC  In  L
10  00  -  -   -:  -
```
↑ Entry for Zone 10 shown

A summary display will appear, showing the present status of that zone's programming.
Zn = zone number;
ZT = zone type;
P = partition to which zone is assigned;
RC = report code for that zone;
In = input type of zone (AW for Aux Wired).
L = Loop (not used for wired expansion zones)
Values in the summary display are the currently programmed values.
To start programming zone 10, press [*]. A prompt for Zone Type will appear.

↓ Zone Number
```
10 Zone Type
Perimeter            03
```
Entry for Zone Type 03 shown ↑

Each zone must be assigned a zone type, which defines the way in which the system responds to faults in that zone. A detailed explanation of each zone type is provided in "Response Type Definitions" in *Section 16. ZONE RESPONSE TYPE DEFINITIONS.*

Enter the desired zone type,as listed below.

00 = Zone Not Used	07 = 24 Hr Audible
01 = Entry/Exit #1	08 = 24 Hr Aux
02 = Entry/Exit #2	09 = Fire
03 = Perimeter	10 = Interior w/Delay
04 = Interior Follower	23 = No Alarm Response
05 = Trouble Day/Alarm Night	24 = Silent Burglary
06 = 24 Hr Silent	

When the display shows the zone type you want, press [*] to continue.

```
10 Partition
                     1
```

Enter the partition to which a zone is to be assigned. Enter "1" or "2". The default is partition 1.

Press [*] to continue.

10 Report Code
1st 03 2nd 12 3C

The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C". Refer to *Section 15. SYSTEM COMMUNICATION* for complete information on report codes, if necessary.

Enter the report code and then press [*] to continue.

Typical summary display

Zn	ZT	P	RC	In	L
10	03	1	03	AW:	–

A summary display will appear, showing the data for the zone that was just programmed. Note that AW indicates an auxiliary wired (zone expansion module) zone.

If it is programmed satisfactorily, press [*] to display the next prompt.

Program Alpha?
0 = No 1 = Yes 0

For all zone types, the next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1) or may be done at a later time using *82 interactive mode (enter 0). We recommend that the entry of Alpha descriptors be done later using *82 interactive menu mode.

See *Section 14. ALPHA DESCRIPTION PROGRAMMING* for specific procedure.

Enter Zn Num.
(00 = Quit) 11

Enter next zone number ↑

If "0" (No) was entered above, the system will display a prompt for entry of the next wired expansion zone number. Proceed with the programming for the next zone, as indicated previously.

When you have programmed all the wired expansion zones satisfactorily, exit *56 interactive mode at the **Enter Zn Num.** prompt by pressing [0] [0] *.

Then exit the programming mode by keying ***99**.

Proceed to the check-out procedure that follows.

Check-Out Procedure For Wired Expansion Zones

After you have completed installation of all devices, all expansion zones in *each* partition of the security system should be checked as follows:

1. Make certain that all devices and sensors connected to the wired expansion zones are not in a faulted state. Doors and windows with contacts should be closed, PIRs should be covered (use a cloth to mask them temporarily if necessary).
2. With all zones intact (including hard-wired zones), the Alpha keypad connected to the system should display :

   DISARMED
   READY TO ARM.

   If the following is displayed,

   DISARMED Press *
   to show faults

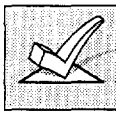
   press the **[*]** key to display the faulted zone(s). Restore any faulted zone(s) as necessary (also make sure that you have connected a 1000 ohm EOL resistor across the terminals of unused expansion zones on the 4219 or 4229 module).

   When the READY TO ARM message is displayed, you can proceed to the next step.

3. Fault and restore every contact or sensor in each expansion zone individually to ensure that it is being monitored by the system. Each time a zone is faulted, the keypad should display the number of the faulted zone (as programmed by you just previously in *56 mode). When each zone is restored, the READY TO ARM message should appear again.

   If some wired expansion zones have been assigned to partition 1 and others to partition 2, you will need to observe the keypad in the appropriate partition as each zone in that partition is faulted and restored.

4. When you get the proper displays on the keypad(s), the wired expansion zones in the system are functioning properly.
5. Unplug the AC transformer.



If a "CHECK 09" message appears on the display, data from the control is not reaching the zone expander module. Check your wiring and DIP switch settings.

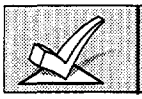
Section 7. RELAY OUTPUTS & POWERLINE CARRIER DEVICES

Relay/Powerline Carrier Device Basics

Relays and Powerline Carrier devices (ex. X-10 brand devices) are programmable switches that can be used to perform many different functions. They can be used to turn lights on and off, control sounders, or for status indications. In this system, each device must be programmed as to how to act (ACTION), when to activate (START), and when to deactivate (STOP). Each of these is described below, and in the programming procedure for *80 and *81 interactive modes that are provided at the end of this section.

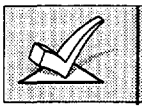
The control supports a total of 8 output devices in the following configurations:

- One 4204 relay module (4 relays) and 4 Powerline Carrier devices.
- One 4229 zone/relay module (2 relays) and 6 Powerline Carrier devices.
- Up to 8 Powerline Carrier devices (8 minus the number of output relays used).



A 4204 cannot be used if a 4219 or 4229 is already being used.

The 4204 and 4229 modules provide Form C (normally open and normally closed) contacts. Powerline Carrier devices are controlled by signals sent through the electrical wiring at the premises via a 4300 transformer. Therefore, if using Powerline Carrier Devices, a 4300 transformer *must* be used in place of the regular system transformer.



Once a device is programmed into the system, the user sees no difference between a Powerline Carrier device or a relay output device.

In *80 and *81 interactive modes, a series of keypad prompts will request entries for programming of the Relay outputs and/or Powerline Carrier devices used in the system. Refer also to "OUTPUT RELAYS/POWERLINE CARRIER DEVICES WORKSHEET FOR *80 AND *81 INTERACTIVE MODES" in the blank programming form.

4204 and 4229 Relay Modules

4204/4229 Setup

The 4204 or 4229 unit can be mounted either remotely or in the control panel. The following steps should be taken to properly set up the 4204 or 4229:

1. **Connect the 4204/4229 to the control's Partition 1 remote keypad terminals** (4–7), using the connector supplied with the 4204 and 4229. Use standard 4-conductor twisted cable for long wiring runs. See Figures 11 and 12.
2. **Set the 4204/4229's DIP switch for a device address of "1"** (switch 2 "OFF" and switches 3, 4, 5 "ON"). Switch 1 determines the unit's cover tamper response ("ON" = disabled, "OFF" = enabled).
3. **Connect the desired field wiring** to the unit's relay contact terminals.

Supervision

- 4204 and 4229 modules are supervised against removal. **CHECK** and zone **09** will be displayed if a module is disconnected from the control's terminals (4, 5, 6, & 7).

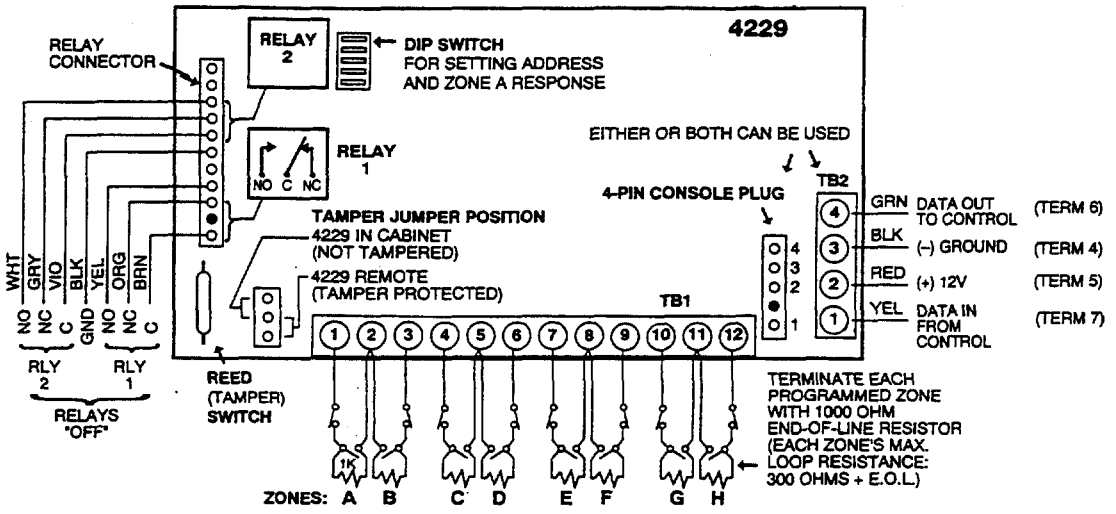

4229
RELAY CONNECTOR
RELAY 2
DIP SWITCH FOR SETTING ADDRESS AND ZONE A RESPONSE
RELAY 1
NO C NC
EITHER OR BOTH CAN BE USED
TB2
4-PIN CONSOLE PLUG
TAMPER JUMPER POSITION
4229 IN CABINET (NOT TAMPERED)
4229 REMOTE (TAMPER PROTECTED)
TB1
GRN DATA OUT TO CONTROL (TERM 6)
BLK (-) GROUND (TERM 4)
RED (+) 12V (TERM 5)
YEL DATA IN FROM CONTROL (TERM 7)
WHT GRY VIO BLK YEL ORG BRN
NO NC C GND NO NC C
RLY 2
RLY 1
RELAYS "OFF"
REED (TAMPER) SWITCH
TERMINATE EACH PROGRAMMED ZONE WITH 1000 OHM END-OF-LINE RESISTOR (EACH ZONE'S MAX. LOOP RESISTANCE: 300 OHMS + E.O.L.)
1K
ZONES: A B C D E F G H

Figure 11. 4229 Connections to Control

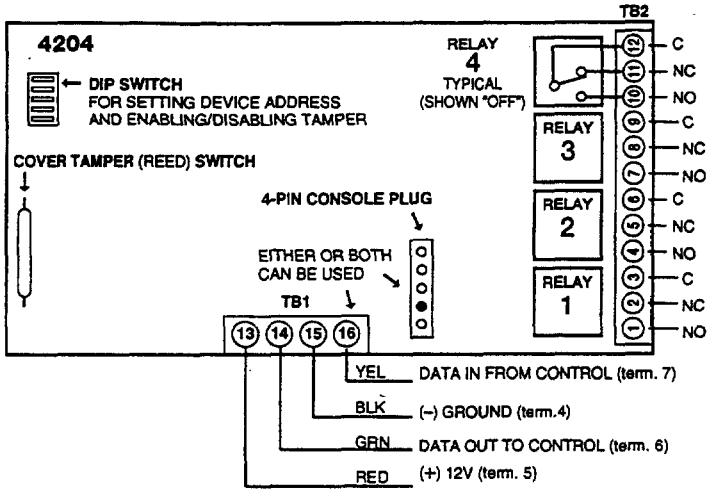

TB2
4204
RELAY 4 TYPICAL (SHOWN "OFF")
DIP SWITCH FOR SETTING DEVICE ADDRESS AND ENABLING/DISABLING TAMPER
COVER TAMPER (REED) SWITCH
4-PIN CONSOLE PLUG
EITHER OR BOTH CAN BE USED
TB1
RELAY 3
RELAY 2
RELAY 1
C NC NO C NC NO C NC NO C NC NO
YEL DATA IN FROM CONTROL (term. 7)
BLK (-) GROUND (term.4)
GRN DATA OUT TO CONTROL (term. 6)
RED (+) 12V (term. 5)

Figure 12. 4204 Connections to Control

Powerline Carrier devices

UL Powerline Carrier devices and the 4300 transformer are not UL Listed for fire or burglary functions and are intended for home automation.

When using Powerline Carrier devices, you must use a 4300 transformer **instead** of the 1321/TF2 transformer.

The 4300 transformer provides AC power to the control panel, and also supplies signals from the control panel through the premises AC wiring to the Powerline Carrier devices (which are plugged into AC outlets). Devices plugged into Powerline Carrier devices can then be made to perform various functions in response to commands entered at the keypads in the security system.

Wiring Connections

1. Splice one end of a 3-conductor cable to the wire ends of the 4142TR cable supplied with the 4300 transformer.
2. Connect the 4142TR cable plug to the 9-pin connector on the control (see SUMMARY OF CONNECTIONS diagram for location of the 9-pin connector).
3. Connect the other end of the 3-conductor cable to the 4300 transformer, as indicated in the table below and in the diagram that follows.

4300 TRANSFORMER WIRE CONNECTIONS

4300 TERMINAL	TO TERMINAL ON CONTROL
1 (AC)	1 (16.5V AC in)
2 (Ground)	25 Earth Ground terminal
3 (AC)	2 (16.5V AC in)

4300 TERMINAL	4142TR CABLE WIRE
4 (Sync)	RED (Pin 5 of 9-pin connector)
5 (Data)	VIOLET (Pin 1 of 9-pin connector)
6 (Com)	WHITE (Pin 4 of 9-pin connector)

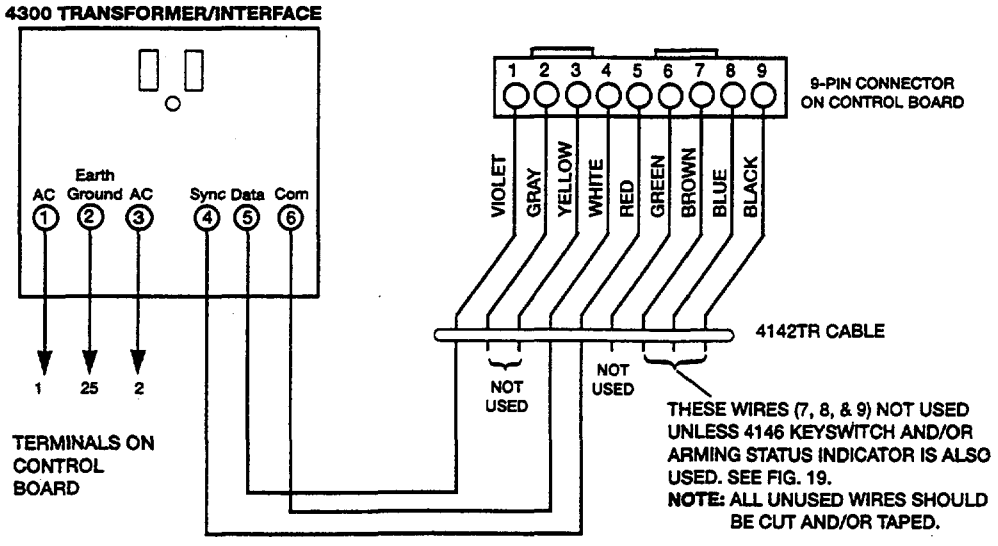


Figure 13. 4300 Transformer Wiring Connections

Programming Options Defined

The following will help you understand the programming of OUTPUT DEVICES when using *80 and *81 modes. The options used to start and stop these devices are described below, followed by the actual screen prompts and available entries.

The letter(s) in parentheses after each function described below, such as (A) after ACTION, are those that appear in the various summary displays of programmed data during programming.

ACTION (A) The "ACTION" of the device is how the device will respond when it is activated by the "START" programming. You may want the device to activate momentarily, to pulse on and off continuously, or to remain activated until some other event occurs to stop it. There are four different choices of actions:

- ACTIVATE for 2 SECONDS and then reset.
- ACTIVATE and REMAIN ACTIVATED until stopped by some other event.
- PULSE ON and OFF until stopped by some other event.
- NOT USED when the device is not used.

START *(STT)* The "START" programming determines when and under what conditions the device will be activated. The following START options are available:

A) 1. **EVENT (EV)** is the condition (Alarm, Fault, Trouble) that must occur to a zone or group of zones (zone list) in order to activate the device. These conditions apply ***only*** when a zone list is used. The different choices for "EVENT" are listed below and in the "Programming Output Relays & Powerline Carrier devices" section that follows.

- ALARM — Relay action begins upon any alarm in an assigned zone in the zone list.
- FAULT — Relay action begins upon any opening or short in an assigned zone in the zone list.
- TROUBLE — Relay action begins upon any trouble condition in an assigned zone in the zone list.
- NOT USED — Relay action is not dependent upon one of the above events.

2. **ZONE LIST (ZL)** is a group of zones to which the "EVENT" applies in order to activate a particular device. Note that there are a total of 3 zone lists that can be programmed in field *81 mode; when the selected EVENT (Alarm, Fault or Trouble) occurs in **any** zone in the selected "Start" ZONE LIST (1, 2, or 3), activation of the selected device will START.

B) 1. **ZONE TYPE/SYSTEM OPERATION (ZT).** If a System Operation, such as "DISARMING" or "ANY FIRE ALARM," is to activate the device, the appropriate choice would also be entered under the "ZONE TYPE" option. "ZONE TYPE" is used independently of the "EVENT/ZONE LIST" combination.

If a specific "ZONE TYPE" is chosen, any zone of that response type going into alarm, trouble, or fault will cause the device to activate as selected in "ACTION." If the same "ZONE TYPE" is also chosen for the STOP programming, any zone of that type that *restores* will de-activate the device.

If a "SYSTEM OPERATION" is chosen (e.g., End of Exit Time), that operation will cause the device to activate as selected in "ACTION." The different choices for "ZONE TYPE" and "SYSTEM OPERATION" are listed in "Programming Output Relays & Powerline Carrier devices" later in this section, and in the Programming Form.

2 **PARTITION No. (P).** The device's "Start" ZONE TYPE/SYSTEM OPERATION may be limited to an occurrence on Partition 1, Partition 2, or any partition (A).

STOP (STP): The "STOP" programming determines when and under what conditions the device will be de-activated. The following options are available:

A) 1. **RESTORE ZONE LIST (ZL).** If a "ZONE LIST" is used as the "Stop" event, the device will de-activate when **all** the zones in that list restore from a previous fault, trouble, or alarm condition. This will occur regardless of what is programmed to "START" the device; therefore, a "RESTORE ZONE LIST" would normally only be used when a "ZONE LIST" is used to start the device.

B). 1. **ZONE TYPE/SYSTEM OPERATION (ZT).** Instead of using a "RESTORE ZONE LIST", a specific zone (response) type or system operation action can be selected to de-activate the device.

If a specific "ZONE TYPE" is chosen, any zone of that response type that restores from a previous alarm, trouble, or fault condition will cause the device to de-activate.

If a "SYSTEM OPERATION" is chosen, that operation will cause the device to de-activate. The different choices for "ZONE TYPE" and "SYSTEM OPERATION" are listed in "Programming Relays & Powerline Carrier devices" later in this section, and in the Programming Form.

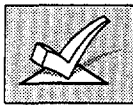
2. **PARTITION No. (P).** The device's "Stop" Zone Type/System Operation may be limited to an occurrence on Partition 1, Partition 2, or any partition.

During normal system operation, any devices may be manually *started* by keypad entry of: **Code + # + 7 + "n"** or manually *stopped* by keypad entry of: **Code + # + 8 + "n,"** where "n" = the device number to be controlled.
As a minimum, the ACTION (A) and PARTITION No. (P) fields must be programmed for this manual action to be operative.

If a relay is energized before a 4-wire smoke detector is reset, the relay will be stopped by the interruption of Aux. Power that resets the smoke detector. If this is not desired, the power to the relay unit should be supplied from another 12V power source (e.g., the same source that is powering external equipment through the relay contacts).

Programming Output Relays and Powerline Carrier Devices

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8+ 0 + 0.**



If wired expansion, or a keyswitch will be used, data fields *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required prior to continuing.

3. **Press *27. POWERLINE CARRIER DEVICE HOUSE ID.** ☐

   Enter House ID 1–15 for Powerline Carrier devices, as follows:

   0 = A, 1 = B, 2 = C, 3 = D, 4 = E, 5 = F, 6 = G, 7 = H, 8 = I, 9 =J,# + 10 = K, # + 11 = L, # + 12 = M, # + 13 = N, # + 14 = O, # + 15 = P.

   Default is **0**.

   The House ID must match the House ID set on the powerline carrier devices. The unit ID for these devices is 1–8 depending on which device is being programmed. For example, device #1 must be set to unit ID 01, device #2 to unit ID 02, etc.

4. **Press *80.** Note that this is an interactive programming mode. It is used to program all output devices used in the system (4229 or 4204 Relay modules, or Powerline Carrier devices). Refer to the Programming Form worksheet for *80 Interactive Mode.

Output Device Displays ↓

Enter Device No.
(00 = Quit) 01

Upon pressing *80, this screen will appear. Enter the Device Number 01 or 02 for a 4229, or 01, 02, 03, or 04 for a 4204, or 01–08 for Powerline Carrier devices (or 00 to end these entries). Press the [*] key to continue.

The [*] key is used to accept an entry and advance to the next prompt. The [#] key is used to revert back to the last question to check or change an entry. Press [*] to go forward again.

02 A EV ZL ZT P
STT 0 0 0 00 1

This screen displays a summary of the current Device START programming (for this example, device 02 has been selected).
Press the [*] key to continue.

02 A EV ZL ZT P
STP – – 0 00 1

This screen displays a summary of the current Device STOP programming.
Press the [*] key to continue.

02 Device Action
No Response 0

Enter the desired device action as listed below. Press the [*] key to continue.

0 = No response
1 = Close for 2 seconds
2 = Close and Stay Closed
3 = Continuous Pulse on & off (1 sec ON, 1 sec OFF)

02 Start Event
Not Used 0

Enter the event to START the relay:
0 = Not used; 2 = Fault; 1 = Alarm; 3 = Trouble
A zone list must be used in conjunction with an event. If a zone type/system operation is to be used instead of an event, enter 0.
Press the [*] key to continue.

02 Start: Zn List
No List 0

If a zone list will be used to START the relay action, enter the zone list number (to be programmed in field *81): 1, 2, or 3. If not used, enter 0. Press the [*] key to continue.

02 Start: Zn Typ
Not Used 00

If a zone type or system operation will be used to START the device action, enter the appropriate two-digit code (see table that follows). If not, enter 00. Press the [*] key to continue.

CHOICES FOR ZONE TYPES

00 = Not Used	04 = Interior Follower	08 = 24 Hr Aux
01 = Entry/Exit #1	05 = Trouble Day/Alarm Night	09 = Fire Trouble
02 = Entry/Exit #2	06 = 24 Hr Silent	10 = Interior w/Delay
03 = Perimeter	07 = 24 Hr Audible	23 = No Alarm Response
		24 = Silent Burglary

** Use 0 (Any) for Partition No. (P) entry.

*** Or at Disarming, whichever occurs earlier.

CHOICES FOR SYSTEM OPERATION

20 = Arming–Stay	36 = **At Bell Timeout***	42 = **System Battery Low
21 = Arming–Away	38 = Chime	43 = Communication Failure
22 = Disarming (Code + OFF)	39 = Any Fire Alarm	52 = Kissoff
31 = End of Exit Time	40 = Bypassing	58 = Duress
32 = Start of Entry Time	41 = **AC Power Failure	
33 = Any Burglary Alarm		

02 Start: Part
Any Partition A

Enter (if applicable) the partition number 1 or 2 (or 0 for any).

Press the [*] key to continue.

02 Stop: Zn List
No List 0

If a zone list will be used to STOP, or restore, the device action, enter the zone list number 1, 2, or 3 (to be programmed in *81 mode). If not used, enter 0.

Press the [*] key to continue.

02 Stop: Zn Typ
Not Used 00

If a zone type or system operation will be used to STOP the device action, enter the appropriate two digit code (see the "ZT" choices listed above). If not, enter 00. Press the [*] key to continue.

02 Stop: Part
Any Partition A

Enter (if applicable) the partition number 1 or 2 (or 0 for any). Press the [*] key to continue.

02 A EV ZL ZT P
STT 0 0 0 00 1

This screen again displays a summary of the current device START programming . Press the [*] key to continue.

02 A EV ZL ZT P
STP - - 0 00 A

This screen again displays a summary of the current device STOP programming. Press the [*] key to continue.

02 X10 Device ?
0 = No, 1 = Yes 00

Enter 1 if using a Powerline Carrier Device (X-10); if not, enter 0.

The display then returns again to the first screen so that the next device number to be programmed can be entered, or enter [0][0] to end device programming.

Previously entered data can be reviewed by pressing [#] [8] [0]. After the device number is chosen, press [*] to go to the next screens. This is a review mode only, and data cannot be changed.

Example of Output Device Programming

A lamp is to be turned on via a Powerline Carrier device (X-10) when any one of 3 specific zones are faulted, or when any 24-hour auxiliary zone is faulted. We want to be able to turn off the lamp **manually** without affecting the arming status of the system.

To program this, we would do the following:

- In *80 interactive mode we choose Output Device 01 and program the Action (A) to be "2" (Close and stay closed). The Event we are looking for to *start* the Device action is a fault, so we will program "2" in (EV). We will use Zone List 1 for the 3 specific zones, so we will program "1" in (ZL), (and we will program these 3 zones in *81's Zone List 1).
- The second condition for turning on the indicator is triggering a 24-hour aux. zone (Zone Type 08), so we will program (ZT) as "08".
- Next, enter the Partition number (P) in which you want the triggering of a 24-hour zone to occur; enter 1 or 2, or enter 0 for *any* partition.

- To *stop* the Device action and turn off the lamp, we do not want to use a restore of any zone, so a "0" will be programmed for the *Restore of* Zone List (ZL). We will use a **manual entry of User Code + [#] + [8] + Device #** to turn off. Therefore, we do not need to program a STOP event.
  Press [*] to continue.
- The system will display a summary screen for the START programming for device 01. Press [*] to continue.
- The system will display a summary screen for the STOP programming for device 01. Press [*] to continue.
- The system will display the "**X10?**" prompt. Enter 1 for yes.
- The **Enter Device No.** prompt for the next zone will be displayed.
- Press 00 and then [*] to exit the *80 mode.

Now use *81 Zone List mode to program the 3 specific zones in Zone List 1.

Press *81. (Zone Lists for Output Devices). This interactive mode is applicable only if you have programmed *80 mode.

Refer to the Programming Form worksheet for *81 Mode.

Zone List Displays ⬇

Zone List No. (00 = Quit) 01

Upon keying *81, this screen will appear. Enter the Zone List Number 01, 02, or 03 to program (or 00 to end these entries). Press the [*] key to advance.
In the following displays, zone list 01 has been selected for programming.

01 Enter Zn Num. (00 = Quit) 00

Enter each zone number to add to the zone list by first entering the zone number, then the [*] key (example, 01*, 02*, 03*). After all zones desired are entered, press 00 to advance.

01 Del Zn List? 0 = No 1 = Yes 0

To delete the zone list, enter 1 (Yes). All zones in the zone list will be deleted automatically. and programming will return to the first screen.
To save the zone list, enter 0 (No) to advance.

01 Delete Zone? 0 = No 1 = Yes 0

To save the entire zone list, enter 0 (No) and programming will return to the first screen.
To delete a zone or zones in a zone list enter 1 (Yes) to advance.

01 Zn to Delete? (00 = Quit) 00

Enter each zone to be deleted from the list, followed by the [*] key. After all zones to be deleted are entered, enter 00 to return to the first screen so that another list can be programmed, if desired.

Notes:

- Any list may include any or all of the system's zone numbers.
- A zone list can be assigned to more than one output relay.
- *If you only want to review what has been programmed previously*, enter [#][8][1]. The review can be advanced by using the [*] key. When finished, enter [0][0] * to quit. No programmed values can be changed in this mode.

When programming in *80 and *81 interactive modes is completed, exit the programming mode by keying *99.

Unplug the AC transformer.

Section 8.
4285 VIP (VISTA Interactive Phone) MODULE

This section provides instructions for mounting the 4285 VIP (VISTA Interactive Phone) module, wiring the 4285 Module and for programming the system for phone access via the 4285 Module.

Installing the 4285 Module

General Information

The 4285 VIP module is an add-on accessory for the VISTA-20HW that permits access to the security system via a Touch-tone phone (either on premises or by a call-in when away).

The 4285 can announce many of the same words that would normally be displayed on an Alpha keypad under the same system conditions.

- Only one 4285 module can be used in this security system, and only in Partition 1.
- When using the 4285 module, addressable keypads must be used in the system, but set to the non-addressable mode (address 31).

When properly connected, the 4285 module will enable the user to do the following via a Touch-tone telephone:

a. Receive synthesized voice messages over the phone regarding the status of the security system.

b. Arm and disarm the security system and perform most other commands using the telephone keypad, with voice annunciation being provided over the phone as confirmation after any command is entered.

The phone used for phone access must have Touch-tone capability, though Touch-tone service is not necessary (if premises uses PULSE dialing, switchable phones must be set for Touch-tone temporarily before attempting phone access).

A ***Phone Access User's Guide*** for phone access to the security system is provided with the 4285 module for the user of the system.

Mounting The 4285 Module

The 4285 module may be mounted in the control cabinet if space is available or, if this is not possible, on the side of the cabinet or adjacent to it.

When mounting the module outside the cabinet, use the screw holes at its rear which will permit it to be mounted horizontally or vertically (2-faced adhesive tape may be used, if preferred). Wires can be brought out from the side or back (a round breakout is also available on the back).

Affix the 4285 module's connections label (supplied separately) to the inside of the module's cover if the cover is used. If you have installed the module within the cabinet, affix the label to the inside of the control cabinet's door.

If you are also using an Audio Alarm Verification (AAV) unit, refer to the AUDIO ALARM VERIFICATION (AAV) UNIT section for the wiring connections required when using both a 4285 module and an AAV unit. If you are not using an AAV unit, follow the wiring connections indicated in this section for the 4285 VIP Module.

4285 Module Wiring

The 4285 is wired between the control panel and the premises handset(s). It listens for touch tones on the phone line and reports them to the control panel. During on-premises phone access, it powers the premises phones; during off-premises phone access, it seizes the line from the premises phones and any answering machines.

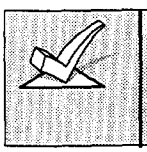
Note: The phone lines must be in service for the 4285 module to function, even when accessing the system from an on-premises phone.

1. Make 12V (+) and (–) and data in and data out connections from the 4285 module to the control, using the connector cable supplied with the 4285 (see Figure 16).

Color Lead	Terminal On Control *
GREEN	DATA IN (terminal 6)
BLACK	AUX – (terminal 4)
RED	AUX + (terminal 5)
YELLOW	DATA OUT (terminal 7)

* These are the same connections as those used for remote keypads connected to Partition 1.

2. Insert the keyed connector at the other end of the connector cable into the mating header on the 4285 module (see diagram on next page for location of the header).
3. Connect terminals 1 through 5 on the 4285 module as shown in the Wiring Table and in the 4285 wiring diagram that follows.



Use an RJ31X jack with a direct-connect cord and make all connections exactly as shown. If the leads on the direct-connect cord are too short to reach their assigned terminals, splice additional wires to them, as required.

4285 WIRING TABLE

4285 Terminal	Connects to:
1. Phone In (Tip)	Terminal (23) on control.
2. Phone In (Ring)	Terminal (24) on control.
3. Phone Out (Tip)	BROWN lead from direct-connect cord.
4. Phone Out (Ring)	GRAY lead from direct-connect cord.
5. Ground	Earth ground terminal (25) on control.
6. *Not Used*	
7. *Not Used*	

If no touch tones are produced following access to the security system **from on-premises** (this problem may arise in rare cases), it may be necessary to reverse the wires connected to terminals 3 and 4 on the 4285 module **and** the wires connected to terminals (21) & (22) on the control. The wiring diagram shows the wiring connections that will provide proper operation in most cases.

Caller ID Units

If the telephone system on the premises includes a Caller ID unit, connect the Caller ID unit directly to the "Handset" terminals (21 &22) on the control, as shown in 4285 Wiring Connections diagram that follows.

4285 WIRING NOTES:

1. Wire the 4285 module exactly as shown, using a direct-connect cord and RJ31X jack.
2. If Touch-tones are not heard when pressing keys following phone access to the security system *via an on-premises phone*, try reversing the pair of wires connected to terminals 3 & 4 on the 4285, **and** the pair of wires connected to terminals 21 & 22 on the control.
3. If an error signal (fast busy signal) is heard when trying to access the system via the phone, check for correct line seizure wiring, as described in note 4.
4. Connection to the incoming Telco line via a RJ31X jack and direct-connect cord, as shown in this diagram, is essential, even if the system is not connected to a central station. **The 4285 will not function if this is not done.**

   The house phone lines (gray and brown wires) must be wired to the 4285 terminals, not to the control terminals. Otherwise, an error signal (fast busy signal) will occur when trying to access the system from an on-premises phone.
5. If the telephone system on the premises includes a Caller ID unit, connect the Caller ID unit **directly** to the "Handset" terminals (21 & 22) on the control, as shown.

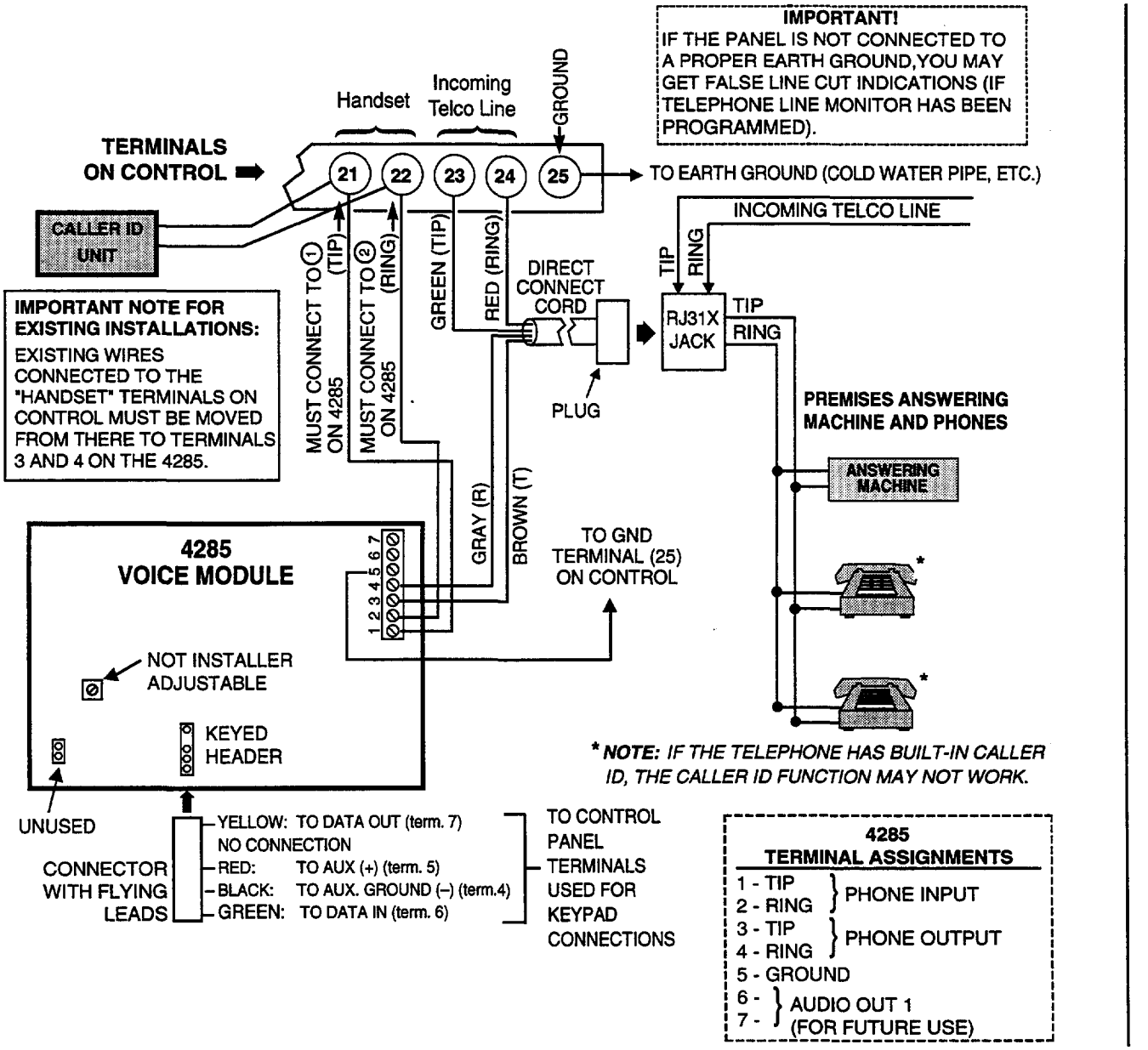

IMPORTANT!
IF THE PANEL IS NOT CONNECTED TO A PROPER EARTH GROUND,YOU MAY GET FALSE LINE CUT INDICATIONS (IF TELEPHONE LINE MONITOR HAS BEEN PROGRAMMED).
Handset
Incoming Telco Line
GROUND
TERMINALS ON CONTROL
21
22
23
24
25
TO EARTH GROUND (COLD WATER PIPE, ETC.)
CALLER ID UNIT
INCOMING TELCO LINE
TIP
RING
IMPORTANT NOTE FOR EXISTING INSTALLATIONS:
EXISTING WIRES CONNECTED TO THE "HANDSET" TERMINALS ON CONTROL MUST BE MOVED FROM THERE TO TERMINALS 3 AND 4 ON THE 4285.
MUST CONNECT TO ① ON 4285 (TIP)
MUST CONNECT TO ② ON 4285 (RING)
GREEN (TIP)
RED (RING)
DIRECT CONNECT CORD
RJ31X JACK
TIP
RING
PLUG
PREMISES ANSWERING MACHINE AND PHONES
ANSWERING MACHINE
GRAY (R)
BROWN (T)
TO GND TERMINAL (25) ON CONTROL
4285 VOICE MODULE
1 2 3 4 5 6 7
NOT INSTALLER ADJUSTABLE
KEYED HEADER
* NOTE: IF THE TELEPHONE HAS BUILT-IN CALLER ID, THE CALLER ID FUNCTION MAY NOT WORK.
UNUSED
CONNECTOR WITH FLYING LEADS
YELLOW: TO DATA OUT (term. 7)
NO CONNECTION
RED: TO AUX (+) (term. 5)
BLACK: TO AUX. GROUND (–) (term.4)
GREEN: TO DATA IN (term. 6)
TO CONTROL PANEL TERMINALS USED FOR KEYPAD CONNECTIONS
4285 TERMINAL ASSIGNMENTS
1 - TIP
2 - RING
PHONE INPUT
3 - TIP
4 - RING
PHONE OUTPUT
5 - GROUND
6 -
7 -
AUDIO OUT 1 (FOR FUTURE USE)

Figure 14. 4285 VIP Module Wiring Connections

Programming The Control For Phone Access

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 + 0 + 0.**
3. **Press *28. VOICE MODULE ACCESS CODE.** [ ]
   If using a 4285 VIP module, enter the 2-digit phone access code as follows: For first digit, enter 1–9; for second digit, enter # +11 for "*", or # +12 for "#". Example: if desired access code is 7* , 7 is the first entry, and # + 11 (for *) is the second entry.
   Enter "00" if not using a 4285 module (this is the default).
   Note: A "0" in either digit will disable thew Voice Module.
4. **Press *95. RING DETECTION COUNT.** [ ]
   Refer to the chart below and program this field accordingly.

Voice Module	Answering Machine	Downloading	Field *95 Programming
Yes	No	No	Set for value other than "0" (1–15). This will enable the control panel to answer the phone call. Otherwise, it will not be possible to access the 4285 module.
Yes	Yes	No	Set for a value higher than the number of rings for which the answering machine is set. Example: if machine is set for 4 rings, use a value of 5 or higher. This is recommended so that the 4285 module can still be accessed if the answering machine is turned off and does not answer the phone call.
Yes	No	Yes	Set for value other than "0" (1–15).
Yes	Yes	Yes	Enter "15" to bypass the answering machine.

5. Zone descriptors should also be programmed, regardless of the type of keypads in use. If this is not done, the 4285 module will not annunciate a description of the zone(s) in alarm, trouble, etc. (the 4285 will annunciate zone numbers only).
   You can enter zone descriptors now using interactive mode *82, or later. See the *Section 14. ALPHA DESCRIPTION PROGRAMMING* for a detailed procedure.
6. Exit the programming mode by entering ***99**.

Perform a preliminary check of the 4285 module, as indicated next.

Checking the Operation of the 4285 VIP Module

To Check Operation From an On-Premises Phone:

1. Pick up phone and enter the programmed 2-digit phone code. Annunciation of a system status report should automatically start. See the User's Guide accompanying the 4285 module for detailed information regarding the nature of the status report, if necessary.
2. During any pause in the status report, or immediately following it, key the following via the keypad on the phone:
   Installer Code (4112), then press key 1 (OFF).
3. A "beep" should be heard on the phone and from a wired keypad, and the words **DISARMED...READY TO ARM** or **DISARMED...NOT READY TO ARM*** should be heard, indicating that the command was entered successfully.
   * DISARMED...NOT READY TO ARM would indicate an open zone.
4. Hang up the phone.

To Check Operation From an Off-Premises Phone:

1. Have someone dial the premises phone number, using a TouchTone phone.
   - If the phone system does not include an answering machine, 2 long tones will be heard in the caller's phone, followed by a voice prompt **"HELLO, ENTER PHONE CODE NOW"**. The caller should enter the programmed 2-digit phone code.
   - If the premises phone system includes an answering machine, the 2-digit phone code should be entered during a pause at the beginning of, or during, the outgoing answering machine message.
2. When the 2-digit phone code is entered, the caller will hear a voice prompt asking for entry of the 4-digit system code (**"ENTER SYSTEM CODE NOW"**).
3. The caller should then enter the installer code (4112). As a safety feature, there is a 3-try limit in which to enter each code (phone code and system code), after which time the call-in will be aborted. Also, if no keys are pressed for a period of 20 seconds, the call-in will be aborted.
4. Annunciation of a system status report will start if both codes were entered correctly.
5 During any pause in the status report, or immediately following it, the caller should key the following via the keypad on the phone:
   Installer Code (4112), then 1 (OFF).
6. A "beep" should be heard (and from a wired keypad on the premises), and the words **DISARMED...READY TO ARM** or **DISARMED...NOT READY TO ARM*** should be heard on the caller's phone, indicating that the command was entered successfully.
   * DISARMED...NOT READY TO ARM would indicate an open zone.
7. At this point, the caller can hang up the phone.
8. Verify with the caller that there was successful access to the system and that the appropriate annunciations were heard over the phone.
9. If the 4285 module functioned satisfactorily, unplug the AC transformer from the AC outlet.

Section 9. EXTERNAL SOUNDERS

This section provides a list of compatible sounders, connection information for an external sounder and programming procedures for those options that affect the operation of external sounders.

Compatible Sounders

Ademco AB-12M 10" Motorized Bell & Box	Motor bell & box. UL Grade A. 100 mA current draw.
Ademco 1011BE12M 10" Motorized Bell & Box	Motor bell & box. UL Listed. 100 mA current draw.
Ademco 702 Outdoor Siren	Self-contained 6–12 volt siren (driver built-in) and weatherproof for outdoor use. Can be wired for either a steady or warble sound.
Ademco 719 2-Channel Siren	Two-channel, self-contained 6–12-volt siren (driver built in). 109dB @ 10 feet. 550mA current draw.
Ademco 747 Indoor Siren	Self-contained 12 volt siren (driver built-in) for indoor wall mount. 747F available for flush mounting.
Ademco 747UL Indoor Siren	Self-contained siren (driver built-in) for indoor wall mount. UL Listed.
Ademco 744 Siren Driver	6 jumper-selected sound outputs. Rated at 119dB with use of an 8-ohm 30 watt speaker.
Ademco 745X3 Voice Siren Driver	Voice siren driver with English, Spanish and French voice messages. Separate messages for Fire and Burglary. Use with 8-ohm speaker. UL Listed.
Ademco 705–820, 5-inch Round Speaker	15-watt, 8-ohm speaker.
Ademco 713 Speaker	40-watt, 8-ohm, indoor/outdoor speaker.
System Sensor PA400B (beige)/PA400R (red) Indoor Piezo Sounder	Indoor piezo sounder (red or beige), rated at 90 dB @ 10 feet.

UL

- Use only UL Listed sounding devices for UL installations.
- The total current drawn from the alarm output and the auxiliary power output, *combined*, cannot exceed 700 mA. In addition, the sounding device must be a UL Listed audible signal appliance rated to operate in a 10.2-13.8 VDC voltage range, and must be mounted indoors. Example: Wheelock Signals Inc. siren model 34T-12 (provides 85dB[A] for NFPA 74 & Standard 985).

This control complies with NFPA requirements for temporal pulse sounding of fire notification appliances.

Temporal pulse sounding for a fire alarm consists of the following:

3 pulses – pause – 3 pulses – pause – 3 pulses. . .

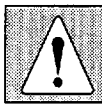
Sounder Connections

The VISTA-20HW provides a 12 VDC output which can power external alarm sounders (bells or sirens, see compatible sounders listed previously). This output will activate a sounder when an alarm occurs in partition 1 or 2.

Make connections to alarm output terminals **3** (+) and **4** (–). See diagram below.

Non-UL Installations

The total current drawn from this output cannot exceed 2 amps. A battery must be installed since this current is supplied by the battery.



Going beyond the limits indicated (2 amps) will overload the power supply, or may cause the electronic circuit protecting the sounder output to trip.

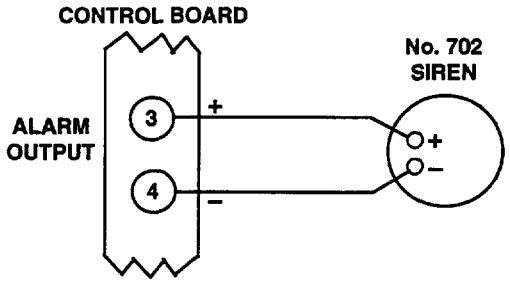


Figure 15. Typical Sounder Wiring

Programming for External Sounders

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**
3. **Press *32. (Single Alarm Sounding per Zone/Armed Period).** ☐
   Enter "1" for yes, "0" for no (default). Enter "0" for UL installations.
4. **Press *33. (Fire Sounder Timeout).** ☐
   Enter "1" for no timeout, "0" for timeout (default).
5. **Press *34. (Alarm Bell Timeout).** ☐
   Enter 0 for no timeout, 1 for 4 min (default), 2 for 8 min, or 3 for 12 min. Enter "1" for UL installations.
6. **Press *37. (Confirmation of Arming Ding).** [1]
   There are separate entries in this field for partition 1 and for partition 2. Enter "0" for no (default), "1" for yes.
7. Exit the programming mode by entering *99.

Testing the Sounder

After installation of the sounder is completed, *each* partition of the Security System should be carefully tested, as follows.

1. Connect the battery wires from the control board to the battery, observing correct polarity.
2. Enter the **installer code (4112)** and press the **TEST [5]** key on the keypad.
   The external sounder should sound for 1 second if the sounder is good and proper connections have been made. Note that if the backup battery is discharged, the sounder will not turn on.
3. To turn off the test mode, enter the **installer code (4112)** and press the **OFF** key.
4. Disconnect the battery wires from the battery terminals.
5. Unplug the AC transformer from the AC outlet.

Section 10. LONG RANGE RADIO

General Information

Check availability of Model 7720PLUS or 7820 long range radio.

If output to long range radio is selected, all messages that are programmed to go to the primary telephone line receiver will also be sent to the 7720 PLUS or 7820 long range radio. These messages will be in Contact ID format (not affected by entry in field *48).

UL For UL installations, Long Range Radio must be disabled (*29 = "0").

The data line is supervised, as well as certain functions in the radio. If communication is lost or a trouble develops, a message will be attempted to be sent via both radio and telephone to the central station.

For complete information, see the manual that accompanies the radio.

Connection

Connect the data in/data out terminals and voltage input terminals of the No. 7720 PLUS or 7820 Long Range Radio to the control's keypad connection points, terminals 4, 5, 6, and 7 as shown below.

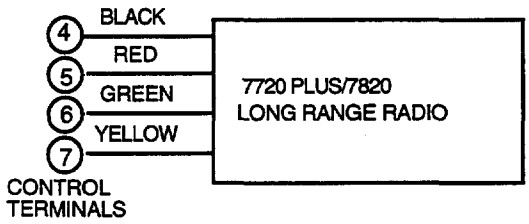


Figure 16. Long Range Radio Connections

Programming

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**
3. **Press *29** OUTPUT TO LONG RANGE RADIO ☐
4. Enter the first digit of the trouble dialer report. The 2nd digit of the code entered in field *60 is automatically sent as the second digit of this code.
5. Program the 7720 PLUS or 7820 radio for device address 3.
6. Exit the programming mode by keying ***99**.

Section 11. REMOTE KEYSWITCH

This section provides instructions for the connection of an optional remote 4146 keyswitch for remote arming and disarming of the system, and the programming necessary when a keyswitch is used. Also included is a description of how the keyswitch operates in the system.

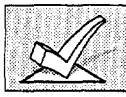
Installing the Keyswitch

The remote 4146 keyswitch (with red and green LEDs to indicate status) is connected to zone 7.

Note that you can use a keyswitch in one partition only.

Remote Keyswitch Connections

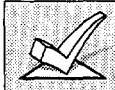
1. Connect the 4146 keyswitch's normally open momentary switch to zone 7 terminals (18 and 19). Remove the 2000 ohm EOL resistor if connected across zone 7 terminals.



When zone 7 is used for keyswitch usage, zone 7 is no longer available for use as a protective zone.

2. Connect the Red and Green LEDs to pins 7, 8, and 9 on the 9-pin connector, using a 4142TR cable as shown in Figures 17 (A) and (B).
3. Connect a 2000 ohm EOL resistor across the momentary switch.
4. You can wire an optional closed-circuit tamper switch (model 112) in series with the zone. If the switchplate is then removed from the wall, the tamper will open, disabling keyswitch operation until the system is next disarmed from the keypad.

   If the tamper (or zone 7 loop wires) is opened when the system is armed, an alarm will occur.



If you are using more than one keyswitch, connect the EOLR at the last switch. The momentary arming switches must all be across the loop and the tamper switches in series with it. The LEDs will not be as bright since they will be sharing drive current in this case.

The 4146 keyswitch can be used with only the Red and Green LEDs connected (omitting the lock switch and tamper switch) to simply provide an arming/ready status indicator panel. When so used, no connections are made to zone 7, which may then be used as a hardwired protection zone, **provided you do not enable field *30**. The LEDs then indicate the arming/ready status for the partition to which hardwired zone 7 is programmed (see "LED Indications" table under **Keyswitch Operation** at the end of this section).

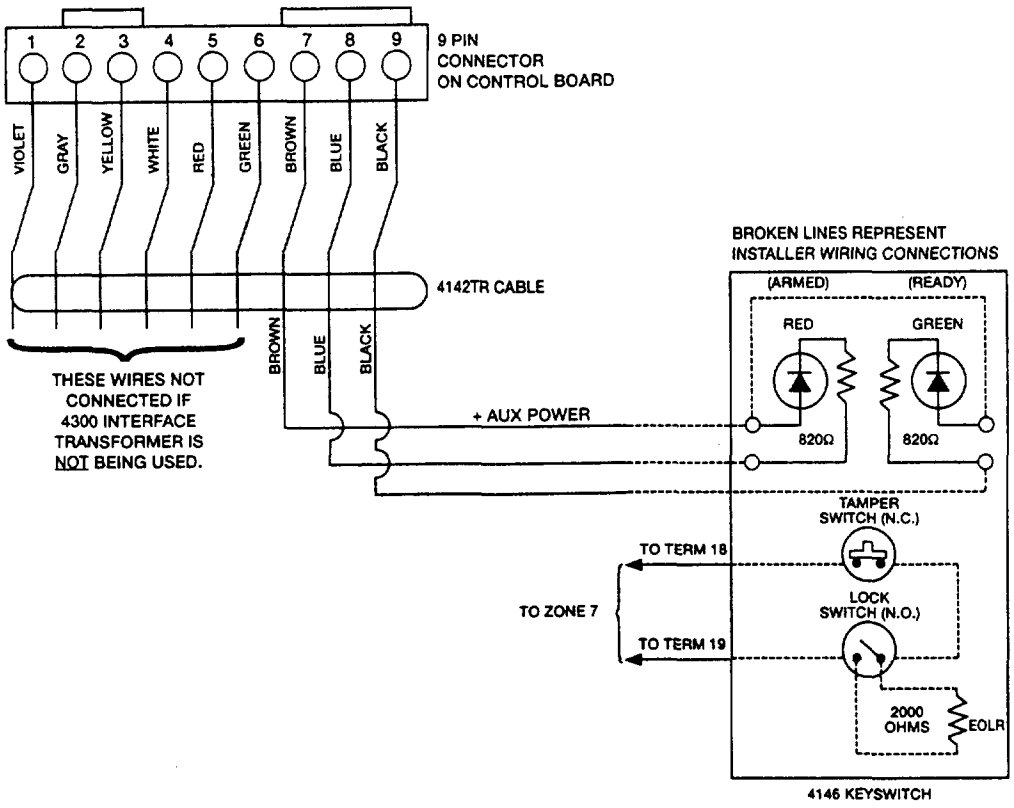


Figure 17 (A). Keyswitch Wiring (4300 Interface Transformer not used)

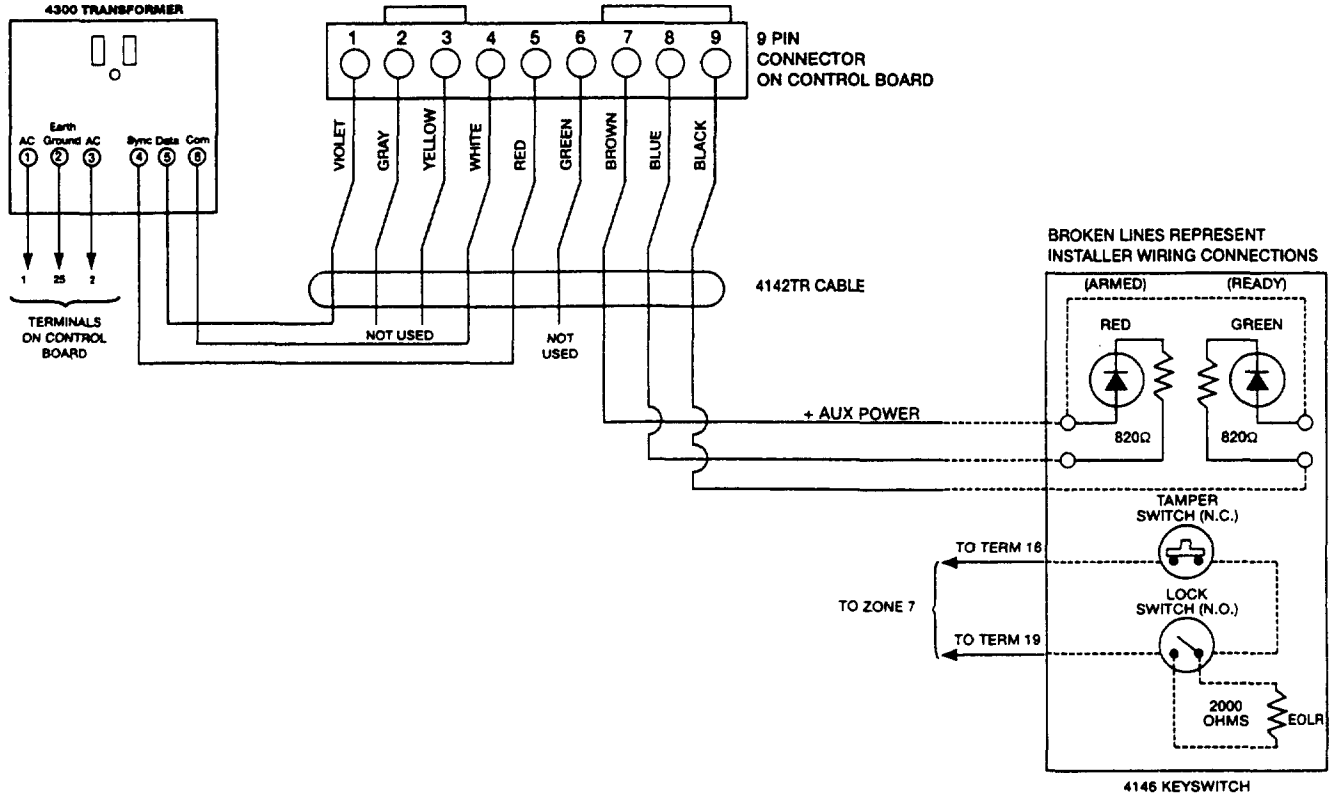
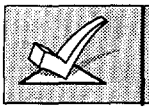


Figure 17 (B). Keyswitch Wiring (4300 Interface Transformer also used)

Programming For The Remote Keyswitch

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 terminals, power up the system. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by entering:
   Installer code (4 1 1 2) + 8 + 0 + 0 keys.



If wired expansion, or a keyswitch will be used, data fields *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required prior to continuing.

Note: If keyswitch is enabled, in menu mode *56 the Zone Type (ZT) for zone 7 will show "77", and will not be accessible for programming.

3. **Press *56.**
   Note that this is an interactive programming mode. You will use it to program zone 7 for partition number, alarm report codes, and to program response time (zone type will automatically show as "77").

```
Enter Zn Num.
(00 = Quit)      07
```
Zone Number ↑

Upon entering *56 mode, this prompt will be displayed.
Enter zone number "07" (if not already present).
Following this entry, press * to continue.

Typical summary display

```
Zn ZT  P  RC  In  RT
07 77  1  00  HW: 1
```

A summary display will appear, showing the present status of zone 7's programming.
Zn = zone number;
ZT = zone type;
P = partition to which zone is assigned;
RC = report code for that zone;
In = input type of zone;
RT = response time for that zone.
Values displayed are the factory defaults for zone 7 or, if this is not a new installation, they are the currently programmed values.

↓ Zone Number

```
07 Zone Type
              77
```
Zone Type ↑

To program zone 7, press [*].
Zone type will be automatically displayed as "77", and no entry is required.
Press [*] to continue.

```
07 Partition
               1
```

The partition to which the keyswitch is assigned is entered here. Enter "1" or "2". *Note that the Keyswitch arming may only be used in one partition.* (Default = [1].
Press [*] to continue.

```
07 Report Code
1st 03 2nd 12   00
```

The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C".
If necessary, refer to *Section 15. SYSTEM COMMUNICATION* for complete information on report codes.
Enter the desired numbers and then press [*] to continue.

07 Response Time 1

Enter the desired response time for zone 7. The recommended entry for keyswitch operation is "1" (the factory default).
Selections available are: "0" (10 msec), "1" (350 msec), or "2" (700 msec).
Enter the desired numbers and then press [*] to continue.

Typical summary display

Zn ZT P RC In RT 07 77 1 3C HW: 1

A summary display will appear, showing the data for zone 7 that was just programmed.
If it is programmed satisfactorily, press [*] to continue.

Program Alpha? 0 = No 1 = Yes 0

The next request is to enter an Alpha descriptor for zone 7. Since this is a keyswitch zone, no descriptor is required. Enter "0".

Enter Zn Num. (00 = Quit) 08

If "0" (no) was entered above, the system will display a prompt for entry of the number for the next zone.
Press [0] [0] plus [*] to exit *56 mode.

Exit the programming mode by keying ***99**.

After keyswitch operation is verified (see below), unplug the AC transformer.

Keyswitch Operation

To arm AWAY, turn key and release within a 1/2 second. To arm STAY, turn and hold key for longer than 2 seconds. To disarm, turn key and immediately release.

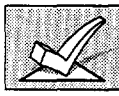
LED indications are defined as follows:

GREEN	RED	MEANING
OFF	OFF	DISARMED & NOT READY
ON	OFF	DISARMED & READY
OFF	ON STEADY	ARMED AWAY
OFF	SLOW FLASH	ARMED STAY
OFF	RAPID FLASH	ALARM MEMORY

Section 12. AUDIO ALARM VERIFICATION (AAV) UNIT

General Information

An Audio Alarm Verification (AAV) module, such as the Eagle 1241, is an add-on accessory that permits voice dialog between an operator at a central station and a person at the alarm installation, for the purpose of alarm verification.



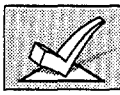
Alarm reports must be programmed for the primary phone number to enable this feature.

UL

The AAV option cannot be used in UL installations.

After all messages have been sent during a reporting session to the primary phone number, the control will trigger the AAV if at least one of the messages was an alarm report. If Contact ID format is selected for the primary phone number, the control will send a "listen-in to follow" message, which signals the 685 to hold the phone connection for 1 minute.

Once the digital message is "kissed off", the control will give up the phone line to the AAV module, without breaking connection with the central station. At this time, all sirens and all continuous keypad sounds in all partitions will be shut off.



You must connect a 4204 or 4229 relay module when using an AAV unit. Do not use relay output number 1 for any other usage.

Wiring Connections

The method used to trigger AAV is via the use of a 4204 or 4229 relay module, as shown in the AAV connection diagrams that follow (one diagram for connections when a 4285 VIP module is used, the other when the 4285 is not used).

Programming

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 terminals, power up the system. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**
3. **Press *91. OPTION SELECTION.** Enter "4" for AAV monitoring. "0" must be entered for UL installations (AAV disabled)
4. **Relay programming in field *80**: Do not program anything for Relay #1.
5. Exit the programming mode by keying *99.
6. Unplug the AC transformer.

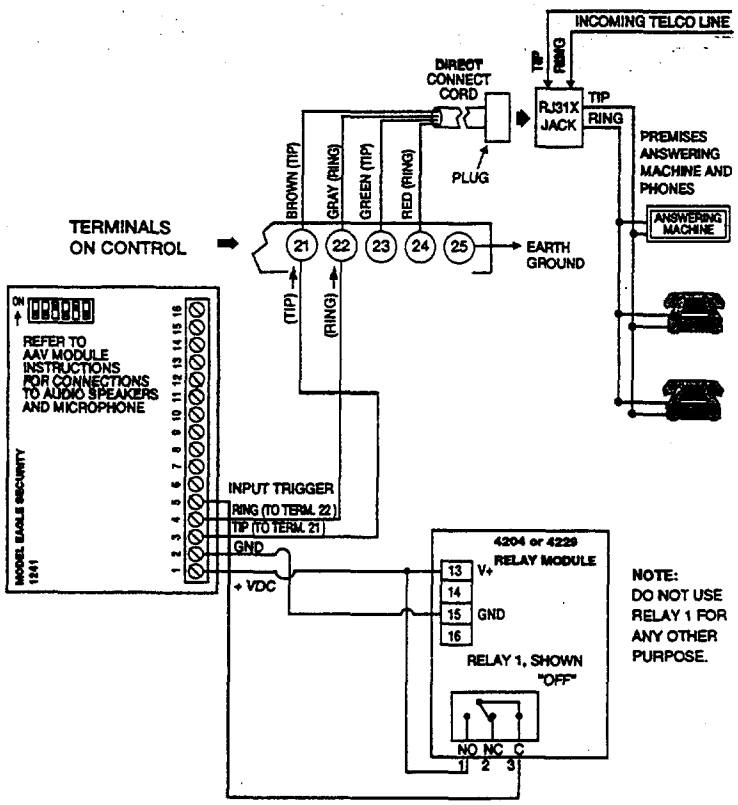


Figure 18. Connection Of AAV Unit When Not Using A 4285 VIP Module

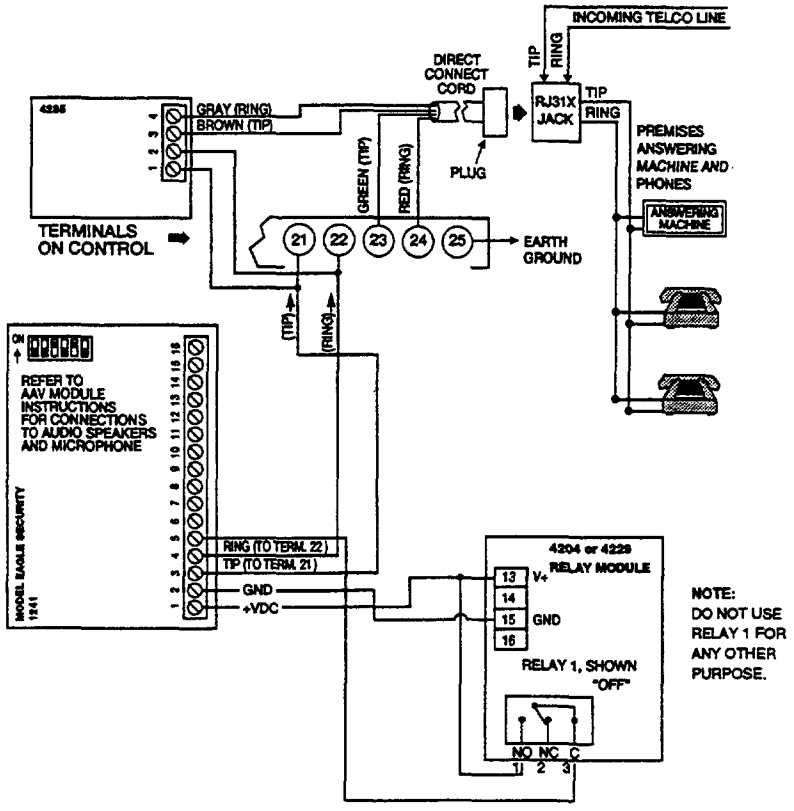


Figure 19. Connection Of AAV Unit When Also Using A 4285 VIP Module

Section 13. FINAL POWER UP

In Section 2, you made temporary power connections for the purpose of programming and testing the keypads. This section provides information about final power-up procedures and battery size calculations.

Earth Ground Connections

The designated earth ground terminal (25) must be terminated in a good earth ground for the lightning transient protective devices in this product to be effective. It also must be grounded to enable the telephone line fault indicator to work properly. The following are examples of good earth grounds available at most installations:

Metal Cold Water Pipe: Use a non-corrosive metal strap (copper is recommended) firmly secured to the pipe to which the ground lead is electrically connected and secured.

AC Power Outlet Ground: Available from 3-prong, 120VAC, power outlets only. To test the integrity of the ground terminal, use a three-wire circuit tester with neon lamp indicators, such as the UL-Listed Ideal Model 61–035, or equivalent, available at most electrical supply stores.

AC Power-Up

1. Plug the 1321/TF2 or 4300 transformer into a 24-hour, uninterrupted 120VAC outlet.
2. Following power-up, **AC, dl** (disabled), or **Busy–Standby** (Alpha keypads) or **NOT READY** (fixed-word keypads) will be displayed. Also the green "POWER" LED* on the keypad(s) should light.

   * Some keypads are equipped with a "READY" LED in place of a "POWER" LED.

   After approximately 1 minute, the initial displays will revert to **DISARMED...READY TO ARM** for Alpha keypads, or **READY** for Fixed-word keypads (if there are no faulted zones). This 1-minute delay allows PIRs, etc. to stabilize.

   To bypass this delay, press: [#] + [0].

Connecting The Back-Up Battery

In the event of an AC power loss, the Control panel is supported by a back-up, rechargeable gel cell battery. The minimum battery size recommended is the No. 467 (12V, 4AH) battery. See "Calculating The Battery Size Needed" below. The battery is installed in the control cabinet.

The standby battery is automatically tested every 4 hours, beginning 4 hours after exiting programming mode. In addition, entry into the test mode will cause a battery test to be initiated.

Calculating the Battery Size Needed

Determine the total device current draw after filling in the AUXILIARY DEVICE CURRENT DRAW WORKSHEET on the next page. To this figure add the 100 mA that is drawn by the control panel itself. Then, to determine the battery size needed, use the following formula:

Total Current Drawn* x Number of hours standby wanted = Battery Ampere/Hours.

* Convert mA figure to decimal Amps (see example).

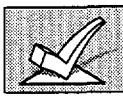
Example: If total auxiliary device current drawn is 450 mA, add 100 mA for the control panel, for a total of 550 mA (0.55 amps); if 24-hour standby is wanted, the calculation will be:

0.55 mA x 24 hours = 13.2 Ampere/Hour battery needed.

In this example, two 7 Amp/Hr batteries (connected in parallel) must be used.

Making the Battery Connections

1. Use the battery standby formula (above) to select the appropriate battery for the installation.



Do not connect the battery until all devices have been wired to the control.

2. Attach the Red and Black wires on the battery connector cable as follows:
   a) Red to the positive (+) battery tab on the control board.
   b) Black to the negative (–) battery tab on the control board.

   See the SUMMARY OF CONNECTIONS diagram for location of the (+) and (–) battery tabs on the control board.

3. Attach the Red and Black wires at the other end of the battery connector cable as follows:
   a) Red to the positive (+) terminal on the battery.
   b) Black to the negative (–) terminal on the battery.

Note: The battery is periodically tested automatically (approximately every four hours), and if it cannot sustain a load, a low battery message is displayed and, if so programmed, will be reported to the central station.

AUXILIARY DEVICE CURRENT DRAW WORKSHEET

DEVICE	CURRENT	# UNITS	TOTAL CURRENT
4127 Keypad	20 mA		
4137AD Keypad	60 mA		
5137AD/ADR Keypad	90 mA		
6127 Keypad	20 mA		
6128 Keypad	30 mA		
6137 Keypad	85 mA		
6138 Keypad	100 mA		
6139/6139R Keypad	100 mA		
4219 Zone Expander	35mA		
4204 Relay Unit	15/180mA‡		
4229 Zone Expander/Relay Unit	35/100mA‡		
4285 VIP Module	160mA		
*			
*			
*			
*			
*			
		TOTAL = (Current available from Aux. terminals = 600 mA max.)**	

* If using hard-wire devices such as PIRs, refer to the specifications for that particular unit's current draw.

** In UL installations, maximum current draw from the Auxiliary Output and the Alarm Output ***combined*** must not exceed 700 mA (600 mA max from Aux output)..

‡ Figures are for relays OFF/relays ON.

Section 14.
ALPHA DESCRIPTOR PROGRAMMING

This section provides instructions for programming Alpha descriptors. This is recommended for systems using Alpha keypads, and necessary if a 4285 module is used.

If using a 4285 module, select from those words in the Alpha Vocabulary list shown in **boldface type**. *The 4285 module will not provide annunciation of the other words.*

If a 4285 module is added to an existing VISTA-20HW system, the Alpha descriptors presently in the system should be re-programmed, selecting from those words shown in **boldface type** in the Alpha Vocabulary list. The 4285 module will not provide annunciation of any other words.

The ALPHA VOCABULARY LIST and CHARACTER CHART will be found on a following page.

Assigning Zone Descriptors

The Alpha Keypad used with the *VISTA-20HW* can have a user-friendly English language description/location of all protection zones, keypad panics, and RF receiver supervision faults programmed into the system. Each description can be composed of a combination of words (up to a maximum of 3) selected from a vocabulary of 244 words stored in memory (see a following page). In addition, up to 5 installer-defined words can be added to those already in memory. Thus, when an alarm or trouble occurs in a zone, an appropriate description for that zone's location will be displayed at the keypad.

Note: Alpha Descriptor entry can be done locally at the Alpha Keypad or remotely using Downloading software. The Alpha keypad procedure is described below.

Entering Zone Descriptors (program menu mode *82)

The descriptor can be entered when the zone is being defined in field *56 but we recommend that it be done in field *82.

There are two methods that can be used to enter Alpha descriptors.

The easiest method requires that you simply enter the 3-digit reference number for the desired word(s). The 3-digit number for each word is provided in the Alpha Vocabulary list (on a following page).

An alternate method allows you to pick the desired words by scrolling through the Alpha Vocabulary list.

Programming the Descriptors

1. With the system powered up, enter the programming mode by keying: **Installer code (4 1 1 2) + 8 + 0 + 0.** The following display will appear:

Installer Code 20

Program Alpha ? 0 = No, 1 = Yes 00

2. **Press *82.**
   The "Program Alpha ?" prompt will appear.

Custom Words ? 0 = No, 1 = Yes 00

3. **Press "1" (Yes).**
   The "Custom Words" prompt will appear.

4. **Press "0" (No).*** The system will then automatically display the descriptor for zone 1.

* The procedure for adding custom words to the built-in vocabulary will be found later under "Adding Custom Words".

Summary Mode Display

Default Descriptor ⬇

```
* ZN 01   ZONE 01
```

If a descriptor was not entered previously for zone 1, the default descriptor for zone 1 will be displayed.

Note that this a "summary mode", and that no entries can be made. Entries can be made only when the display contains a flashing cursor, which signifies the "entry mode".

Flashing Cursor (system is ready for entry of word).

⬇

```
* ZN 01 [A]
```

5. To delete or change the default descriptor for zone 1, **press * plus the same zone number (01).** This will clear that descriptor and gain access to the entry mode with flashing cursor, allowing changes to be made.

NOTE: If you do not wish to change the existing descriptor for zone 1, enter * plus the next zone number for which you wish to enter (or check) a descriptor. A summary display for that zone will appear. You must then press * plus the same zone number again to gain access to the entry mode (flashing cursor) for that zone.

When entering Zone Descriptors using Method 2, the keypad keys perform the following functions:

- **[3]** Scrolls both alphabet and actual words in *ascending* alphabetical order.
- **[1]** Scrolls both alphabet and actual words in *descending* alphabetical order.
- **[6]** Selects between alphabet and actual word list; also used to save words.
- **[8]** Stores the zone description in memory.

Flashing Cursor ⬇

```
* ZN 01   [B]ACK
```

6. **Press # plus 3-digit number** for the first word from the "Alpha Vocabulary List". Example: The descriptor that we wish to enter for zone 1 is BACK DOOR. From the list, BACK = 013. Therefore, you would enter **# 0 1 3**.

Note: If you accidentally enter the wrong word, simply press # plus the correct 3-digit number for the word you want.

```
* ZN 01   BACK
[A]
```

⬆

Flashing Cursor if "6" is pressed (system is ready for next word).

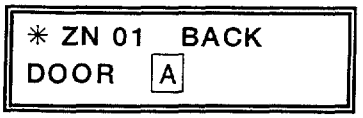
7. **Press "6" to accept the selected word and continue.**

Note: If this is the only word you are using for the descriptor, press "8" instead of "6" to save that word in memory, and then go to step 11.

```
* ZN 01   BACK
[D]OOR
```

⬆Flashing Cursor

8. **Enter the 3-digit number for the next word.** In our example, the word is DOOR, whose number is "057". Enter **# 0 5 7**. This display will appear:



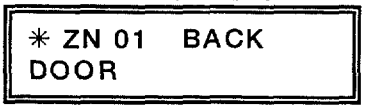
Flashing Cursor if "6" is pressed (system ready for next word).

9. **Press "6" to accept the selected word.**

   Note: If these are the only words you are using for the descriptor, press "8" instead of "6" to save them in memory.

10. The two words in our example have now been entered. Note, however, that up to three words may be entered (provided the number of characters will fit on the screen). **Press "8" to save all words in memory.**

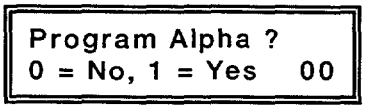
Summary Display



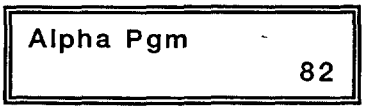
The "A" with the flashing cursor over it will disappear, indicating that the word(s) are stored in memory for that zone, as shown in the summary display at the left.

11. To enter a descriptor for the next zone, press * plus the desired zone number (e.g., *02. The summary display following step 4 previously will appear. Now repeat steps 6 through 10 for the descriptor for the next zone.

12. To exit the Alpha descriptor mode, press "**✳+0+0**" at the summary display.



This prompt will be displayed.



13. Press "0". This will be displayed.

14. Press **✳99** to exit the programming mode.

Alternate Method For Programming Zone Descriptors

1. Perform steps 1 through 5 of previous method.
2. Note that the first letter of the alphabet appears after the zone number, and that the zone number is automatically included with the description. *If there already is a description for the zone,* the description will appear (with no cursor, since this is a display mode). *To enter or change a description,* press [*] + Zone Number again. A flashing cursor will now appear.

   Assume, for example, that the desired description for zone 1 is BACK DOOR.

3. **Select the first letter of the desired description** (note that "A" is already displayed).

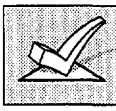
   Press key [3] repeatedly to advance through the alphabet (e.g., to "B"), or key [1] to go backward. Then press [6] to display the first available word beginning with the desired letter (e.g., BABY).

   Next, press [3] repeatedly to move forward, or [1] to move backward, until the desired word is displayed (e.g., BACK). Then press [6] to accept the word and toggle back to the alphabet list.

4. For selection of the next word (e.g., DOOR), repeat step 3, as follows. Press key [3] until the first letter of the next word appears (e.g., "D"). Then press [6] to display the first available word beginning with that letter (e.g. DAUGHTERS). Press [3] repeatedly until the desired word (e.g., DOOR) appears. To accept the word, press [6], which toggles back to the alphabet list.
5. When all desired words have been entered, press [8] to store the description in memory.
6. Enter *NN, where NN is the next zone that you want to review or for which you want to program a descriptor. To modify the descriptor, enter *NN again. To exit this mode, press "*00".

Adding Custom Words (will not be annunciated by the 4285 Module)

You can add up to five installer-defined words can be added to the built-in vocabulary. Each of the five "words" can actually consist of a "word string" of one or more words, but no more than *ten* characters can be used for each word or word string.



Custom words must begin with an *alphabetic* character. If a number or symbol is used as the first character, the word will not be saved.

When adding Custom Words in steps 3–6, the keypad keys perform the following functions:

- **[3]** Advances through the alphabet in ascending order.
- **[1]** Moves through the alphabet in descending order.
- **[6]** Selects desired letter; moves cursor one space to right.
- **[4]** Moves cursor one space to left.
- **[7]** Inserts a space at the cursor location, erasing any character located there.
- **[8]** Saves the new word in the system's memory.

1. Perform steps 1, 2, and 3 of **Programming the Descriptors** on a previous page.
   Select CUSTOM WORD mode (enter "1") when the prompt **CUSTOM WORD ?** is displayed.
2. Enter the number ([1]–[5]) of the custom word or word string to be created (for example, if you are creating the *first* custom word or word-string, enter [1], for the *second*, enter [2], etc.). A cursor will now appear at the beginning of the second line.
3. **One of two methods of entering the custom word's characters can now be used** *(refer to the CHARACTER LIST of letters, numbers, and symbols on a following page)*:
   Method 1:
   Press the [#] key, followed by the two-digit entry for the first letter you would like to display (e.g., [6][5] for "A"), **or...**
   Method 2:
   Use the [3] key to advance through the list of symbols, numbers, and letters. Use the [1] key to move back through the list.
4. When you have reached the desired character, press [6] to select it. The cursor will then move to the right, in position for the next character.
5. Repeat steps 3 and 4 to create the desired word(s). Note that the [4] key can be used to move the cursor to the left, if necessary, and that key [7] can be used to enter a blank (or erase an existing character). Remember, no word or word-string can exceed 10 characters.
6. Press the [8] key to save the custom word(s) and return to the "**CUSTOM WORD ?**" display.
   Repeat steps 2–5 for other custom words to be entered. To change a custom word, just overwrite it. If no more are to be entered now, press [0] to return to the Descriptor entry. The custom word(s) will be automatically added to the built-in vocabulary.

When zone descriptors are being entered as described in step 6 of **Programming the Descriptors**, the custom word numbers are 250 to 254 for words 1 to 5 respectively.

When being entered as described in step 3 in **Alternate Method For Programming Zone Descriptors**, each word will be found at the end of the group of words that begin with the same letter as it does.

ALPHA VOCABULARY LIST

(For Entering Zone Descriptors)

000 *(Word Space)*

A

• **001 AIR**
• **002 ALARM**
003 ALCOVE
004 ALLEY
005 AMBUSH
• **006 AREA**
• **007 APARTMENT**
008 ART
• **009 ATTIC**
010 AUDIO
011 AUXILIARY

B

• **012 BABY**
• **013 BACK**
• **014 BAR**
015 BARN
• **016 BASEMENT**
• **017 BATHROOM**
• **018 BED**
• **019 BEDROOM**
020 BELL
• **021 BLOWER**
• **022 BOILER**
023 BOTTOM
024 BOX
025 BREAK
• **026 BUILDING**
027 BURNER

C

028 CABINET
029 CALL
030 CAMERA
031 CAR
032 CASE
033 CASH
034 CCTV
035 CEILING
036 CELLAR
• **037 CENTRAL**
038 CIRCUIT
039 CLIP
• **040 CLOSED**
041 COIN
042 COLD
043 COATROOM
044 COLLECTION
045 COMBUSTION
• **046 COMPUTER**
047 CONTACT

D

• **048 DAUGHTERS**
049 DELAYED
• **050 DEN**
051 DESK
• **052 DETECTOR**
• **053 DINING**
054 DISCRIMINATOR
055 DISPLAY
056 DOCK
• **057 DOOR**
058 DORMER
• **059 DOWN**
• **060 DOWNSTAIRS**
061 DRAWER
• **062 DRIVEWAY**
063 DRUG
• **064 DUCT**

E

• **065 EAST**
066 ELECTRIC
067 EMERGENCY
068 ENTRY
• **069 EQUIPMENT**
070 EXECUTIVE
• **071 EXIT**
072 EXTERIOR

F

• **073 FACTORY**
074 FAILURE
075 FAMILY
• **076 FATHERS**
• **077 FENCE**
078 FILE
• **079 FIRE**
• **080 FLOOR**
081 FLOW
082 FOIL
• **083 FOYER**
084 FREEZER
• **085 FRONT**
086 FUR
087 FURNACE

G

088 GALLERY
• **089 GARAGE**
• **090 GAS**
091 GATE
• **092 GLASS**
093 GUEST
094 GUN

H

• **095 HALL**
• **096 HEAT**
097 HIGH
098 HOLDUP
099 HOUSE

I

100 INFRARED
• **101 INSIDE**
102 INTERIOR
103 INTRUSION

J

104 JEWELRY

K

• **105 KITCHEN**

L

• **106 LAUNDRY**
• **107 LEFT**
108 LEVEL
• **109 LIBRARY**
• **110 LIGHT**
111 LINE
112 LIQUOR
• **113 LIVING**
• **114 LOADING**
115 LOCK
116 LOOP
117 LOW
• **118 LOWER**

M

• **119 MACHINE**
120 MAGNETIC
121 MAIDS
122 MAIN
• **123 MASTER**
124 MAT
• **125 MEDICAL**
126 MEDICINE
127 MICROWAVE
128 MONEY
129 MONITOR
• **130 MOTHERS**
• **131 MOTION**
132 MOTOR
133 MUD

N

• **134 NORTH**
135 NURSERY

O

• **136 OFFICE**
137 OIL
• **138 OPEN**
139 OPENING
• **140 OUTSIDE**
141 OVERFLOW
142 OVERHEAD

P

143 PAINTING
• **144 PANIC**
145 PASSIVE
• **146 PATIO**
147 PERIMETER
• **148 PHONE**
149 PHOTO
150 POINT
151 POLICE
152 POOL
• **153 POWER**

Q

154 QUAD

R

155 RADIO
• **156 REAR**
157 RECREATION
158 REFRIG
159 REFRIGERATION
160 RF
• **161 RIGHT**
• **162 ROOM**
163 ROOF

S

164 SAFE
165 SCREEN
166 SENSOR
• **167 SERVICE**
• **168 SHED**
169 SHOCK
• **170 SHOP**
171 SHORT
172 SHOW
• **173 SIDE**
174 SKYLIGHT
175 SLIDING
• **176 SMOKE**
177 SONIC
• **178 SONS**
• **179 SOUTH**
180 SPRINKLER
181 STAMP
• **182 STATION**
183 STEREO
184 STORE
• **185 STORAGE**
186 STORY
187 STRESS
188 STRIKE
189 SUMP
190 SUPERVISED
191 SUPERVISION
192 SWIMMING
193 SWITCH

T

194 TAMPER
195 TAPE
196 TELCO
197 TELEPHONE
198 TELLER
• **199 TEMPERATURE**
200 THERMOSTAT
• **201 TOOL**
202 TRANSMITTER
203 TRAP

U

204 ULTRA
• **205 UP**
• **206 UPPER**
• **207 UPSTAIRS**
• **208 UTILITY**

V

209 VALVE
210 VAULT
211 VIBRATION
212 VOLTAGE

W

213 WALL
214 WAREHOUSE
215 WASH
• **216 WEST**
• **217 WINDOW**
218 WINE
• **219 WING**
220 WIRELESS
221 WORK

X

222 XMITTER

Y

223 YARD

Z

224 ZONE (No.)
• **225 ZONE**

226 0
227 1
228 1ST
229 2
230 2ND
231 3
232 3RD
233 4
234 4TH
235 5
236 5TH
237 6
238 6TH
239 7
240 7TH
241 8
242 8TH
243 9
244 9TH

250 Custom Word #1 _____

251 Custom Word #2 _____

252 Custom Word #3 _____

253 Custom Word #4 _____

254 Custom Word #5 _____

Note: Bulleted (•) words in **boldface type** are those that are also available for use by the 4285 module. If using a 4285 module, and words other than these are selected for Alpha descriptors, the 4285 will not provide annunciation of those words.

CHARACTER (ASCII) CHART

(For Adding Custom Words)

32	(space)	43	+	54	6	65	A	76	L	87	W
33	!	44	,	55	7	66	B	77	M	88	X
34	"	45	–	56	8	67	C	78	N	89	Y
35	#	46	.	57	9	68	D	79	O	90	Z
36	$	47	/	58	:	69	E	80	P		
37	%	48	0	59	;	70	F	81	Q		
38	&	49	1	60	<	71	G	82	R		
39	'	50	2	61	=	72	H	83	S		
40	(	51	3	62	>	73	I	84	T		
41	)	52	4	63	?	74	J	85	U		
42	*	53	5	64	@	75	K	86	V		

Section 15. SYSTEM COMMUNICATION

This section provides an explanation of formats this system accommodates for reporting alarms and other system conditions to the central station. The process of a successful transmission consists of both the method of communication between the control panel and the central station receiver and the actual way the information is sent and displayed at the central station.

Report Code Formats

When the panel calls the central station receiver, it waits to hear a "handshake" frequency from the receiver to confirm that the receiver is on-line and ready to receive its message. Once the panel hears the handshake it is programmed to listen for, it sends its message. The panel then waits for a "kissoff" frequency from the receiver acknowledging that the message was received and understood.

If the handshake frequency is not given or is not understood by the panel, the panel will not send its message. Once the handshake frequency is received and understood by the panel, the panel will send its message. If there is an error in the transmission (the receiver does not receive a "valid" message), the kissoff frequency will not be given by the central station receiver.

The panel will make a total of eight attempts to the primary telephone number and eight attempts to the secondary telephone number (if programmed) to get a valid message through. If the panel is not successful after its numerous attempts, the keypad will display "Comm Failure" (Alpha keypad) or "FC" (Fixed-word keypad).

The following chart defines the three sets of (handshake/kissoff) frequencies that the panel supports and the different formats that can be sent for each.

FORMAT	HANDSHAKE	TRANSMITS DATA	KISSOFF	TRANSMIT TIME
Low Speed 3+1 4+1 4+2	1400Hz	1900Hz (10PPS)	1400Hz	Under 15 secs. (Standard report)
Sescoa/Rad 3+1 4+1 4+2	2300Hz	1900Hz (20PPS)	2300Hz	Under 10 secs. (Standard report)
Express 4+2	1400–2300Hz	DTMF (10 cps)	1400Hz	Under 3 secs.
Contact ID	1400–2300Hz	DTMF (10 cps)	1400Hz	Under 3 secs.

The following describes each format in greater detail.

3+1 and 4+1 Standard Formats	Comprise a 3- (or 4-) digit subscriber number and a single digit report code (e.g. Alarm, Trouble, Restore, Open, Close, etc).
3+1 and 4+1 Expanded Formats	Comprise a 3- (or 4-) digit subscriber number, and a two-digit report code. The first digit is displayed on the first line, followed by a second line where the first digit is repeated 3 (or 4) times and followed by the second digit. This is the "expanded" digit.
4+2 Format	Comprises a 4-digit subscriber number and 2-digit report code.
Ademco Contact ID Reporting Format	Comprises a 4-digit subscriber number, 1-digit event qualifier ("new" or "restore"), 3-digit event code, 2-digit Partition No., and 3-digit zone number, user number, or system status number (see the following page).

Report	3+1/4+1 Standard	3+1/4+1 Expanded	4+2
Alarm	SSS(S) A	SSS(S) A AAA(A) Z	SSSS AZ
Trouble	SSS(S) T	SSS(S) T TTT(T) t	SSSS Tt
Bypass	SSS(S) B	SSS(S) B BBB(B) b	SSSS Bb
AC Loss	SSS(S) E	SSS(S) E EEE(E) A_C	SSSS EA_C
Low Batt	SSS(S) L	SSS(S) L LLL(L) L_B	SSSS LL_B
Open	SSS(S) O	SSS(S) O OOO(O) U	SSSS OU
Close	SSS(S) C	SSS(S) C CCC(C) U	SSSS CU
Test	SSS(S) G	SSS(S) G GGG(G)g	SSSS Gg
Restore Alarm	SSS(S) R	SSS(S) R RRR(R) Z	SSSS RZ
AC Restore	SSS(S) R_A	SSS(S) R_A $R_AR_AR_A(R_A)A_c$	SSSSR_A A_c
LoBat Res.	SSS(S) R_L	SSS(S) R_L $R_LR_LR_L(R_L)L_B$	SSSS R_LL_B
Trouble Res.	SSS(S) R_T	SSS(S) R_T $R_TR_TR_T$ (R_T)t	SSSS R_Tt
Bypass Res.	SSS(S) R_B	SSS(S) R_B $R_BR_BR_B$ (R_B)b	SSSS R_Bb

Where:

SSS or SSSS = Subscriber ID
A = Alarm Code–1st digit
Z = Typically Zone Number*–2nd digit
Tt = Trouble Code (1st & 2nd digits)
Bb = Bypass Code (1st & 2nd digits)
EA_C = AC Loss Code (1st & 2nd digits)
LL_B = Low Battery Code(1st & 2nd digits)
O = Open Code–1st Digit
C = Close Code–1st Digit
U = User Number (in hex)
Gg = Test Code (1st & 2nd digits)
R = Restore Code (Alarm)
R_Tt = Restore Code (Trbl)1st & 2nd digits
R_Bb = Restore Code (Byps)1st & 2nd digits
R_AA_C = Restore Code (AC)1st & 2nd digits
R_LL_B = Restore Code (Bat)1st & 2nd digits

*Zone numbers for: [*] & [#], or [B] = 99 [1] + [*], or [A] = 95 Duress = 92
[3] + [#], or [C] = 96 Tamper = 9

Ademco Contact ID Reporting takes the following format:

CCCC Q EEE GG ZZZ

where: CCCC = Customer (subscriber) ID

Q = Event qualifier, where:
E = new event , and R = restore

EEE = Event code (3 hexadecimal digits)
Note: For a complete list of event codes, refer to the central office receiver manual.

GG = Partition Number (system messages show "00")

ZZZ = Zone/contact ID number reporting the alarm, or user number for open/close reports. System status messages (AC Loss, Walk Test, etc.) contain zeroes in the ZZZ location.

TABLE OF CONTACT ID EVENT CODES

Code	Definition
110	Fire Alarm
121	Duress
122	Alarm, 24-hour Silent
123	Alarm, 24-hour Audible
131	Alarm, Perimeter
132	Alarm, Interior
134	Alarm, Entry/Exit
135	Alarm, Day/Night
143	Alarm, Expansion Module
146	Silent Burglary
150	Alarm, 24 Hour Auxiliary
301	AC Power
302	Low System Battery/Battery Test Fail
305	System Reset
333	Trouble or Tamper Expansion Module
351	Telco Line Fault

Code	Definition
353	Long Range Radio Trouble
373	Fire Loop Trouble
374	Exit Error
380	Touble, Zone Trouble
401	Disarming, Armed AWAY (MAX), Armed AWAY (keyswitch)
406	Cancel by User
407	Remote Arm/Disarm (Downloading)
408	Quick Arm AWAY/MAX
441	Armed STAY/INSTANT, Quick Arm STAY/INSTANT, Armed STAY (Keyswitch),
570	Bypass
602	Periodic Test
607	System Test
623	Event Log 80% Full
629	1-1/3 Day No Event

Introduction

This section provides instructions for programming those fields that affect communications between the control and the central station.

Keypad Programming Procedure

1. With at least one Alpha keypad (5137AD or 6139) connected to the system, power up the system. If necessary, refer to the *POWERING THE SYSTEM* section for the power-up procedure. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**

Press *40 PABX ACCESS CODE.

[| | |] Enter up to 4 digits if PABX is needed to access an outside line. If fewer than 4 digits are needed to be entered, exit by pressing * and next field number (e.g., 41). To clear entries from field, press *40*.

Fields * 40, * 41, * 42:
Enter up to the number of digits shown. Do not fill unused spaces.
Enter 0–9,
+ 11 for '*'
+ 12 for '#'
+ 13 for a pause (2.5 secs)

Press * 41 PRIMARY PHONE No.

[| | | | | | | | | | | |] Enter up to 12 digits. If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 42). To clear entries from field, press * 41*.

Press * 42 SECONDARY PHONE No.

[| | | | | | | | | | | |] Enter up to 12 digits. If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 43). To clear entries from field, press * .42* .

*For Fields * 43, * 44, * 45, and * 46.*
Entries are provided for 3 or 4 digits for the primary and secondary monitoring location.

Enter digits 0–9; #+10 = A (0 on some receivers); #+11 = B; # +12 = C; # +13 = D; #+14 = E; or # +15 = F.

To clear entries from field, press * 43* , * 44* , * 45* , or * 46* . See blank Programming Form for examples of Account No. entries.

Press * 43 PRIMARY SUBSCRIBER ACCOUNT. No. (Partition 1)

[| | |] (Primary Central Station Account Number).

Press * 44 SECONDARY SUBSCRIBER ACCOUNT. No. (Partition 1)

[| | |] (Secondary Central Station Account Number).

Press * 45 PRIMARY SUBSCRIBER ACCOUNT. No. (Partition 2)

[| | |] (Primary Central Station Account Number).

Press * 46 SECONDARY SUBSCRIBER ACCOUNT. No. (Partition 2)

[| | |] (Secondary Central Station Account Number)

Press * 47 PHONE SYSTEM SELECT Enter 1 digit (default = 0) [ ]

If Central Station Receiver *is not* on WATS line:
0 = Pulse Dial, 1 = Tone Dial.

If Central Station Receiver *is* on WATS line:
2 = Pulse Dial, 3 = Tone Dial.

Press * 48 REPORT FORMAT, PRIMARY/SECONDARY

Primary ☐ Secondary ☐

Determines which format is to be used to report to the central station.

0 = 3+1; 4+1 ADEMCO Lo Speed Standard **(this is the default)**
1 = 3+1; 4+1 Radionics Standard
2 = 4+2 ADEMCO Lo Speed Standard
3 = 4+2 Radionics Standard
6 = 4+2 ADEMCO Express
7 = ADEMCO Contact ID Reporting
8 = 3+1; 4+1 ADEMCO Lo Speed Expanded
9 = 3+1; 4+1 Radionics Expanded

(Enter * as the 4th digit of * 43 through * 46, if 3+1 dialer reporting is to be used.)

Note: The maximum number of alarm and alarm restore reports during one armed period is determined by field * 93.

Press * 49 SPLIT/DUAL REPORTING ☐

Enter 0 to disable (Backup report only). **This is the default.**

	TO PRIMARY	TO SECONDARY
1 =	Alarms, Restore, Cancel	Others
2 =	All except Open/Close, Test	Open/Close, Test
3 =	Alarms, Restore, Cancel	All
4 =	All except Open/Close, Test	All
5 =	All	All

Press * 50 15-SECOND DIALER DELAY, BURGLARY ☐

Enter 0 for no, or 1 for yes. Default is **0** (no delay).
Enter "0" for UL installations.

Press * 51 PERIODIC TEST REPORT ☐

Select the desired test report interval.
0 = none; 1 = 24 hours; 2 = weekly; 3 = 30 days. Default is **0** (none). Test Report Code entered in field * 64 is sent.
Reports with Partition 1 Subscriber No.

Press * 52 TEST REPORT OFFSET ☐

This is the time to first report after exiting from programming or downloading.
0 = 24-hour; 1 = 6 hours; 2 = 12 hours; 3 = 18 hours. Default is **2.**

Press * 53 SESCOA/RADIONICS SELECT ☐

0 = Radionics (0–9, B–F reporting)
1 = SESCOA (0–9 only reporting)
Select 0 for all other formats. Default is **0.**

TO PROGRAM SYSTEM STATUS AND RESTORE REPORT CODES (* 59 – * 76, & * 89)

The following is a set of guidelines to be used for programming report codes. The actual digits that you enter depend upon the particular installation, and should be in agreement with you and the central station office receiving the signals. Use these guidelines to program this entire section.

With a 3+1 or 4+1 Standard Format: Enter a code in the *first* box: 1–9, A, B, C, D, E, or F. Enter "#+10" for A (this reports a "0" on some receivers), "#+11" for B, "#+12" for C, "#+13" for D, "#+14" for E, "#+15" for F.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will result in automatic advance to the next field when programming.

With an Expanded or 4+2 Format: Enter codes in *both* boxes (1st and 2nd digits) for 1–9, or A–F, as described above.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will eliminate the expanded message for that report.

With Ademco Contact ID Reporting: Enter a digit in the *first* box to enable the zone to report. Use a different digit for each zone until you have used up available digits. If the number of zones exceeds the number of available digits, begin with digit 1 again. This is an "enabling" code only and is not the actual code sent to the central station office. Entries in the *second* boxes will be ignored. For system status (non-alarm) codes, enter a "1" in the first box for all the system conditions you want to send to the central station.

An entry of "0" in the *first* box will disable the report.

Press * 59 EXIT ERROR REPORT CODE [ ]

If "0" is entered in this field, no special message will be sent, only the regular alarm and alarm restore code for the zone. If a non-zero code is entered, this message will be sent if an alarm occurs within 2 minutes after the end of the Exit time.

Refer to *Section 17. DATA FIELD DESCRIPTIONS* for a detailed description of this option.

Field *59 entry note: The 2nd digit is automatically sent as the 2nd digit of the zone alarm report code programmed in * 56, if expanded or 4+2 reporting is selected.

Press *60 TROUBLE REPORT CODE [1]

This will be sent if a zone goes into trouble.

Press *61 BYPASS REPORT CODE [1]

This will be sent when a zone is manually bypassed.

Press *62 AC LOSS REPORT CODE [1]

Reports with Partition 1 Subscriber No. Timing of this report is random with up to a 4-hour delay. If AC restores before the report goes out, there is no AC restore report.

Press * 63 LOW BAT REPORT CODE [1]

This will be sent when a low battery condition exists in the system's standby battery. Reports with Partition 1 Subscriber No.

Press *64 TEST REPORT CODE [1]

This is sent periodically to test that the communicator and phone lines are operational (frequency of report is selected in field *51). Reports with Partition 1 Subscriber No.

Press *65 OPEN REPORT CODE Part'n 1 [ ] Part'n 2 [ ]

This is sent upon disarming of the system. 2nd digit = User No., if expanded or 4+2 reporting is selected.

See TO PROGRAM SYSTEM STATUS AND RESTORE REPORT CODES explanation on previous page for fields *66–*76, and *89.

Part'n 1 Part'n 2

Press *66 ARM AWAY/STAY REPORT CODE [ ][ ] [ ][ ]

AWAY STAY AWAY STAY

This option allows for independent programming of AWAY and STAY reports for each partition. 2nd digit of Report is User No., if expanded or 4+2 reporting is selected.

Note: Open reports are not sent in if the system was armed STAY and Stay reports not programmed.

Press *68 CANCEL REPORT CODE [ ]

This is sent upon disarming of the system after an alarm condition was reported.

Press *69 GROUP RESTORES FOR TROUBLE, BYPASS [ ]

Enter 0 if a report is desired for each zone restoral, as it occurs. **This is the default.** Enter 1 if a report is not desired until all zones have restored.

Note: "1" not applicable to Contact ID reporting.

Press *70 ALARM RESTORE REPORT CODE, 1st DIGIT [ ]

This is sent when the zone that caused an alarm is restored to its non-faulted condition. 2nd digit is automatically sent as the 2nd digit of the zone alarm report code programmed in field *56, if expanded or 4+2 reporting is selected.

Press *71 TROUBLE RESTORE REPORT CODE [ ]

This is sent when a trouble in a zone is restored. Field *69 applies.

Press *72 BYPASS RESTORE REPORT CODE [ ]

This is sent when a zone that has been bypassed is un-bypassed. Field *69 applies.

Press *73 AC RESTORE REPORT CODE [ ]

This is sent when AC power has been restored after an AC power outage. Reports with Partition 1 Subscriber No.

Press *74 LOW BAT RESTORE REPORT CODE [ ]

This is sent when a system low battery condition is restored to normal.

Press *76 TEST RESTORE REPORT CODE [ ]

This is sent when the test mode is exited. Reports with Partition 1 Subscriber No.

Press *89 EVENT LOG 80% FULL REPORT CODE [ ]

If an Event Logging selection is made in field *90, a message can be sent to the central station receiver when the log is 80% full.

Note: Aside from the selection made by the installer in field *90, all log control and readout is accomplished via the Downloader.

Press *90 EVENT LOGGING ☐

0 = None; 1 = Alarm/Alarm Restore; 2 = Trouble/Trouble Restore; 4 = Bypass/Bypass Restore; 8 = Open/Close. Default is "3".

Example: To select "Alarm/Alarm Restore", and "Open/Close", enter 9 (1 + 8); to select all, enter #15.

Note: System messages are logged when non-zero selections are made. See Fields *89 and *90 in *Section 17. DATA FIELD DESCRIPTIONS* for a more detailed description of Event Logging.

Press *92. PHONE LINE MONITOR ENABLE. ☐

0 = Not used (default)

1 = Local keypad display only when phone line is faulted.

2 = Local keypad display plus keypad trouble sound when line is faulted. Each partition turns off its own trouble sound. No automatic timeout.

3 = Same as "2" above plus Device No. 2 STARTS. If either partition is armed, external sounder activates. External sounder will be turned off by normal bell timeout, or by security code plus OFF *from either partition* (it does not have to be the one that was armed).

Device number 2 must either be programmed to be STOPPED in field *80 or STOPPED by entry of **security code + # + 8 + 2**. Partition in *80 should be set to "0" for STOP.

NOTE:
Option 3 may be used even if a relay unit or Powerline carrier device is not connected to the control.

Press *93 NUMBER OF REPORTS IN ARMED PERIOD ☐

"0" limits reports to a total of 10 per code; "1" allows an unlimited number of alarm plus alarm restore reports. Default is **0**.
Enter "1" for UL installations.

Press *94 DOWNLOAD PHONE NUMBER

| | | | | | | | | | | | | Enter up to 12 digits;

0–9, # +11 for "*", # + 12 for "#", # + 13 for a pause. Do not fill unused spaces. End field by entering "*". To clear entries, press *94*.

Press *95 RING DETECTION COUNT FOR DOWNLOADING ☐

Refer to the chart below and program this field accordingly.

Voice Module	Answering Machine	Downloading	Field *95 Programming
Yes	No	No	Set for value other than "0" (1–15). This will enable the control panel to answer the phone call. Otherwise, it won't be possible to access the Module.
Yes	Yes	No	Set for a value higher than the number of rings for which the answering machine is set. Example: if machine is set for 4 rings, use value 5 or higher. This is recommended so that the Voice Module can still be accessed if the answering machine is turned off and does not answer the phone call.
Yes	No	Yes	Set for value other than "0" (1–15).
Yes	Yes	Yes	"15" to bypass answering machine.
No	No	No	Enter "0"
No	Yes	No	Enter "0"
No	No	Yes	Enter 1–15
No	Yes	Yes	Enter 15

***96 INITIALIZE DOWNLOAD ID AND SUBSCRIBER ACCT. No. FOR DOWNLOADING** (No data entry required)

This completes the communication programming. Exit the programming mode by keying *99.

Refer to *Section 19. TESTING THE SYSTEM* to check system operation.

Section 16.
ZONE RESPONSE TYPE DEFINITIONS

General Information

You must assign a zone type to each zone, which will then define the way in which the system will respond to faults in that zone. Zone types are defined below.

Type 00
Zone Not Used

Program a zone with this zone type if the zone is not used.

Type 01
Entry/Exit Burglary #1

This zone type provides exit and entry delays whenever the zone is faulted if the control is armed in the Away or Stay modes. When the panel is armed in the Instant or Maximum modes, no entry delay is provided. Entry delay #1 is programmable, but Exit delay is automatically set as follows:

Exit Delay = Entry Delay (that has been programmed) +40 seconds.

Exit delay begins whenever the control is armed, regardless of the arming mode selected. This zone type is usually assigned to sensors or contacts on doors through which primary entry and exit will take place.

Type 02
Entry/Exit Burglary #2

This zone type provides a secondary entry delay whenever the zone is faulted if the panel is armed in the Away and Stay modes. When the panel is armed in the Instant or Maximum modes, no entry delay is provided. Entry and Exit delays #2 are automatically set as follows:

Entry delay #2 = programmed Entry delay #1 + 30 seconds.

Exit delay #2 = programmed Entry delay #1 + 40 seconds.

Exit delay #2 begins whenever the control is armed, regardless of the arming mode selected.

This zone type is usually assigned to sensors or contacts on doors through which secondary entry and exit will take place, and where more time might be needed to get to and from the keypad (typically used for a garage, loading dock, or basement door).

Type 03
Perimeter Burglary

This zone type gives an instant alarm if the zone is faulted when the panel is armed in the Away, Stay, Instant or Maximum modes. This zone type is usually assigned to all sensors or contacts on exterior doors and windows.

Type 04
Interior, Follower

This zone type gives a delayed alarm (using the programmed Entry/Exit time) if the Entry/Exit zone is faulted first. Otherwise this zone type gives an instant alarm. This zone type is active when the panel is armed in the Away and Maximum modes. **This zone type is bypassed automatically when the panel is armed in the Stay or Instant modes**. This zone type is usually assigned to a zone covering an area such as a foyer, lobby, or hallway through which one must pass upon entry (After faulting the entry/exit zone to reach the keypad to disarm the system.)

Since this zone type is designed to provide an instant alarm if the entry/exit zone is not violated first, it will protect an area in the event an intruder hides on the premises prior to the system being armed, or gains access to the premises through an unprotected area.

Type 05
Trouble by Day/
Alarm by Night

This zone type will give an instant alarm if faulted when armed in the Away, Stay, Instant or Maximum (night) modes. During the disarmed state (day), the system will provide a latched trouble sounding from the keypad (and a central station report, if desired). This zone type is usually assigned to a zone which contains a foil-protected door or window (such as in a store), or to a zone covering a "sensitive" area such as a stock room, drug supply room, etc. This zone type can also be used on a sensor or contact in an area where immediate notification of an entry is desired.

Type 06
24-hour Silent Alarm

This zone type sends a report to the Central Station but provides no keypad display or sounding. This zone type is usually assigned to a zone containing an Emergency button.

Type 07
24-hour Audible Alarm

This zone type sends a report to the Central Station, and provides an alarm sound at the keypad, and an audible external alarm. This zone type is usually assigned to a zone that has an Emergency button.

Type 08
24-hour
Auxiliary Alarm

This zone type sends a report to Central Station and provides an alarm sound at the keypad. **(No bell output is provided).** This zone type is usually assigned to a zone containing a button for use in personal emergencies, or to a zone containing monitoring devices such as water or temperature sensors, etc.

Type 09
Supervised Fire
(With Verification on
Zone 1)

This zone type provides a fire alarm on short circuit and a trouble condition on open circuit. The bell output will pulse when this zone type is alarmed. This zone type is always active and cannot be bypassed. **This zone type can be assigned to a control panel basic wired zone, any zone in a wired zone expansion module, or wireless zones.** When used with zone 1 on the panel, 2-wire smoke detectors can be used. For an explanation of the "verification" function, refer to the **Operation** paragraph in Section 5 under **Wiring 2-Wire Smoke Detectors To Zone 1.**

*Note: **Only hardwired zone 1 can be programmed as a fire zone in UL installations. However, any wireless zone can be used as a fire zone.***

Type 10
Interior w/Delay

This zone type gives entry delay #1 (using the programmed entry time), if tripped when the panel is armed in the Away mode. Entry delay begins whenever sensors in this zone are violated, regardless of whether or not an entry/exit delay zone was tripped first. *No entry delay* is provided if tripped when the panel is armed in the Maximum mode. *Exit* delay is present for *any* arming mode. **This zone type is bypassed when the panel is armed in the Stay or Instant modes.**

Type 23
No Alarm Response

This zone type can be used on a zone when an output relay action is desired, but with no accompanying alarm (e.g., lobby door access).

Type 24
Silent Alarm

This zone type provides an instant alarm, with NO audible indication at any keypad or external sounder, if the zone is faulted when the system is armed in the AWAY, STAY, INSTANT, or MAXIMUM modes. This zone type is usually assigned to all sensors or contacts on exterior doors and windows where audible notification is NOT desired. A report is sent to the Central Station.

Section 17. DATA FIELD DESCRIPTIONS

Descriptions of System Data Fields

THE BLANK PROGRAMMING FORM SHOULD BE USED TO RECORD THE DATA FOR THIS INSTALLATION

Defaults (where applicable) Are Indicated In Text

The following is a table containing a list of all data fields in this control (presented in numerical order). If you have performed the programming instructions that were included with the installation of each of the various peripheral devices covered in previous sections, this table will simply serve as a reference for all data fields in the system. If you have decided to program all the data fields in the system at one time (and therefore did not perform the programming indicated previously in each section), you can use this table to program all the data fields now.

***20 INSTALLER CODE** [ ][ ][ ]

The Installer code is used to enter the 4-digit Master security code for each partition **in the normal operation mode**, via the keypad connected to Partition 1. See "Master Code" in *Section 20. SYSTEM OPERATION* for procedure.

Enter 4 digits, 0–9. Default is **4-1-1-2**.

***21 QUICK ARM ENABLE** Partition 1 [ ] Partition 2 [ ]

If enabled, the [#] key can be used instead of the security code when **arming** the system.

Enter 0 for disabled or 1 for enabled for each partition. Default is **0**.

***23 FORCED BYPASS FUNCTION** Partition 1 [ ] Partition 2 [ ]

This feature allows all faulted zones to be bypassed automatically. All zones that are bypassed by this function will be displayed after the bypass is initiated. Enter, for each partition:

0 = No forced bypass. **This is the default.**

1 = Allows automatic bypass of all open zones.

Must be "0" for UL installations.

***25 WIRED ZONE EXPANSION** [ ]

Use this field to select the type of expansion unit being used, as follows:

0 = none; 1 = 4219; 2 = 4229; 3 = 4204. Default is **0.**

***27 POWERLINE CARRIER DEVICE (X-10) HOUSE ID** [ ]

Powerline Carrier devices require a House ID. This field identifies this house ID to the control.

If Powerline Carrier devices are used, they are selected in field ***** 80.

House ID is entered in following manner:

0 = A, 1 = B, 2 =C, 3 = D, 4 = E, 5 = F, 6 = G, 7 = H, 8 = I, 9 = J, # + 10 = K, # + 11 = L, # + 12 = M, # + 13 = N, # + 14 = O, # + 15 = P.

Default is **0**.

***28 VOICE MODULE PHONE CODE** (4285) [ ]

The use of a 4285 VIP Module (can be used in Partition 1 only) requires a 2-digit code.

Enter a 2-digit phone access code as follows: For first digit, enter any any digit from 1 to 9; for second digit, enter # +11 for "*****", or # +12 for "#".

Example: If desired access code is 7*****, **7** is the first entry, and **# + 11** (for *****) is the second entry.

Default is "00" (Voice Module disabled). **Note:** A "0" in either digit will disable the Voice Module.

***29 OUTPUT TO LONG RANGE RADIO** ☐

If output to LRR is selected here, all messages that are programmed to go to the primary telephone line receiver will also be sent to the 7720 PLUS or 7820 radio. These messages will always be in Contact ID format (not affected by entry in field *48). The data line is supervised as well as certain functions in the radio. If communication is lost or a trouble develops, a message will be attempted to be sent via both radio and telephone to the central station.

Note: Normal trouble restore report (*71) is sent on restore of the condition.

Entry is first digit of Trouble Dialer Report; enter Trouble code 1–9, B (# +11), C (# +12), D (# +13), E (# +14), or F (# +15). The 2nd digit of Trouble Dialer Report is automatically the 2nd digit from field *60.

For UL installations, Long Range Radio must be disabled (enter "0").

Note: The Radio should be programmed for device address 3 on the keypad lines.

***30 KEYSWITCH ENABLE** ☐

This field must be enabled (enter 1) if using a keyswitch. The keyswitch must be connected to zone 7, which can then not be used for any other purpose. Default is **0** (no keyswitch).

Notes

- If keyswitch is enabled, in menu mode *56 the Zone Type (ZT) for zone 7 will show "77", and the zone will not be accessible for programming.
- If the 4146 keyswitch is used with only Red and Green LEDs connected (no lock switch and tamper switch) to simply provide an arming/ready status indicator panel, zone 7 can then be used as a hard-wired protection zone, **provided you do not enable this field.**

ZONE SOUNDS AND TIMING (*32–*38)

***32 SINGLE ALARM SOUNDING PER ZONE** (per armed period) ☐

This field limits alarm sounding to once per arming period for a given zone. Enter 1 for yes; default is **0** (no).

***33 FIRE SOUNDER TIMEOUT** ☐

This field determines whether the external sounder will shut off after time allotted, or continue until manually turned off. Enter 0 for sounder timeout, or 1 for no timeout. Default is **0.**

This control complies with NFPA requirements for temporal pulse sounding of fire notification appliances.

Temporal pulse sounding for a fire alarm consists of the following:
3 pulses – pause – 3 pulses – pause – 3 pulses. . .

***34 ALARM BELL TIMEOUT** ☐

This field determines whether the external sounder will shut off after time allotted, or continue until manually turned off. Enter as follows:
0 = No timeout; 1 = 4 min (default); 2 = 8 min; 3 = 12 min.
Alarm bell timeout must be set for a minimum of 4 min ("1") for UL installations.

Note: Entry Delay must be set for a maximum of 20 seconds in UL installations.

***35 ZONE TYPE 01 ENTRY DELAY** Partition 1 ☐ Partition 2 ☐

System will wait the time allotted before sounding alarm upon entering. May be selected individually for each Partition.

0 = 0 seconds 2 = 30 seconds 4 = 60 seconds
1 = 20 seconds 3 = 45 seconds 5 = 90 seconds

Default is **2** (30 seconds).

Zone Type 02 Entry Delay = Zone Type 01 Entry Delay + 30 seconds.
(EXIT delays = Zone type 01 Entry delay plus 40 seconds).

***36 AUDIBLE EXIT WARNING** Partition 1 ☐ Partition 2 ☐

If enabled, this field provides exit warning sound when armed AWAY; it can be selected for either or both Partitions.
Warning sound consists of slow continuous beeps until last 5 seconds, when it changes to fast beeps. The warning sound will end at the termination of Exit time. 0 = no; 1 = yes. Default is **1**.

***37 CONFIRMATION OF ARMING DING** Part'n 1 ☐ Part'n 2 ☐

Enter 1 (in either or both Partitions) to enable 1/2 second external alarm sounding "ding" when closing report goes in, or at the end of exit delay. **0** disables the "ding" (default).

***38 POWER UP IN PREVIOUS STATE** ☐

Enter **1** for Yes (default) if, upon power-up, you want the system to assume the system status prior to power down. Enter **0** if you want the system to always power up in a disarmed state.

When the system powers up armed, an alarm will occur 1 minute after arming if a zone is faulted. **Must be 1 for UL applications.**

Note that if the previous state was armed AWAY or STAY, the system will not respond to sensor changes for 1 minute, which allows time for sensors such as PIRs to stabilize.

DIALER PROGRAMMING (*40–*50)

***40 PABX ACCESS CODE** (See Box at Left) [| | |]

Enter up to 4 digits if PABX is needed to access an outside line. If fewer than 4 digits are needed to be entered, exit by pressing * and next field number (e.g., 41). To clear entries from field, press ***40***.

Fields *40, *41, *42: Enter up to the number of digits shown. Do not fill unused spaces.
Enter 0–9,
+ 11 for '*'
+ 12 for '#'
+ 13 for a pause (2.5 secs)

***41 PRIMARY PHONE No.** (See Box at Left)

[| | | | | | | | | | | |] Enter up to 12 digits.

If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 42). To clear entries from field, press ***41***.

Note: Back-up reporting (8 calls are made to the secondary phone number if no kiss-off is received after 8 attempts to the primary number) is automatic only if there is a secondary phone number (field *42).

***42 SECONDARY PHONE No.** (See Box at Left)

[| | | | | | | | | | | |] Enter up to 12 digits.

If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 43). To clear entries from field, press ***42***. See Note in field *41 above, also.

Notes For Fields *43, *44, *45, and *46.

Entries provided for up to 4 digits for primary office and 4 digits for secondary.
Enter digits 0–9; # +11=B; # +12=C; # +13=D; # +14=E; or # +15=F.
Enter * as the fourth digit if a 3-digit account number (for 3+1 dialer reporting format) is used. Enter 0 as the first digit of a 4-digit account number for Nos. 0000–0999. Exit field by pressing * (and press next field number) if only 3 digits are used.

To clear entries from field, press ***43***, ***44***, ***45*** or ***46***.
See blank Programming Form for examples of Account No. entries.

***43 PRIMARY SUBSCRIBER ACCOUNT. No.** (partition 1)

[| | |] Primary Receiver. See notes above.

***44 SECONDARY SUBS ACCOUNT. No.** (partition 1)

[| | |] Secondary Receiver. See notes above.

***45 PRIMARY SUBSCRIBER ACCOUNT. No.** (Partition 2)

[| | |] Primary Receiver. See notes above.

***46 SECONDARY SUBS ACCOUNT. No.** (Partition. 2)

[| | |] Secondary Receiver. See notes previously.

***47 PHONE SYSTEM SELECT** Default is **0**. ☐

Enter 1 digit. If Central Station Receiver *is not* on WATS line:
0 = Pulse Dial, 1 = Tone Dial.

If Central Station Receiver *is* on WATS line:
2 = Pulse Dial, 3 = Tone Dial

***48 REPORT FORMAT** Primary ☐ Secondary ☐

Determine which format is to be used to report to the central station. Enter 1 digit (0–9).

0 = 3+1; 4+1 ADEMCO Lo Speed Standard **(this is the default)**
1 = 3+1; 4+1 Radionics Standard
2 = 4+2 ADEMCO Lo Speed Standard
3 = 4+2 Radionics Standard
6 = 4+2 ADEMCO Express
7 = ADEMCO Contact ID Reporting
8 = 3+1; 4+1 ADEMCO Lo Speed Expanded
9 = 3+1; 4+1 Radionics Expanded

(Enter ***** as the 4th digit of ***43** through ***46**, if 3+1 dialer reporting is to be used.)

For an explanation of these formats, see *Section 15. SYSTEM COMMUNICATION*.

Note: The maximum number of alarm and alarm restore reports during one armed period is determined by field ***93**.

***49 SPLIT/DUAL REPORTING** ☐

Enter 0 to disable (Backup report only). **This is the default.**

	TO PRIMARY	TO SECONDARY
1 =	Alarms, Restore, Cancel	Others
2 =	All except Open/Close, Test	Open/Close, Test
3 =	Alarms, Restore, Cancel	All
4 =	All except Open/Close, Test	All
5 =	All	All

***50 15-SECOND DIALER DELAY (BURGLARY)** ☐

If selected, will provide 15-second delay of burglary alarm report to the central station. Allows time for subscriber to avoid a false alarm transmission. Enter 0 for no or 1 for yes. Default is **0** (no delay). Must be "0" for UL installations.

***51 PERIODIC TEST REPORT** ☐

Select the desired test report interval.
0 = none; 1 = 24 hours; 2 = weekly; 3 = 30 days. Default is **0** (none).
Test Report Code entered in field ***64** is sent.
Reports with Partition 1 Subscriber No.

***52 TEST REPORT OFFSET** ☐

This is the time to first report from programming or downloading.
0 = 24 hours; 1 = 6 hours; 2 = 12 hours; 3 = 18 hours. Default is **2**.

***53 SESCOA/RADIONICS SELECT** ☐

0 = Radionics (0–9, B–F reporting)
1 = SESCOA (0–9 only reporting)
Select 0 for all other formats. Default is **0**.

*56 ZONE ASSIGNMENT/ALARM REPORT CODES

*REFER TO THE ZONE ASSIGNMENT TABLE FOR *56 IN THE CENTERFOLD PROGRAMMING FORM .*

This is an interactive menu mode that is used to program zone numbers, zone types, partition numbers, alarm and report codes, and to identify the type of loop input device. This mode can also be used for entering Alpha descriptors for zones (we recommend entering descriptors in menu mode *82.

Upon entry menu mode *56, the following is displayed:

```
Enter Zn Num.
(00 = Quit)      17
```
Zone 17 entered ↑

Zone Number (Zn): Enter the zone number that you wish to program (or [0][0] to leave zone programming).

```
Zn ZT P RC  In: L
17 09 1 10 AW: -
```

Press [*]. A summary display will come up, showing the status of that zone's program.

If it is programmed satisfactorily, press [#] to back up one step and enter another zone number, if desired.

If the zone is not programmed, or you want to change it, press [*]. A prompt for Zone Type will appear.

↓ Zone Number
```
17 Zone Type
Perimeter        03
```
Zone Type ↑

Zone Type (ZT): Each zone must be assigned to a zone type, which defines the way in which the system responds to faults in that zone.

Enter the zone type code (or change it, if necessary). Zone types are listed below.

00 = Not Used
01 = Entry/Exit #1
02 = Entry/Exit #2
03 = Perimeter
04 = Interior Follower
05 = Trouble Day/Alarm Night
06 = 24 Hr Silent
07 = 24 Hr Audible
08 = 24 Hr Aux
09 = Fire W/verif.
10 = Interior w/Delay
23 = No Alarm Response
24 = Silent Burglary

Default values for zones 01 to 08 are:

Zone No.(Zn):	01	02	03	04	05	06	07	08
Zone Type Default:	09	01	03	03	03	03	03	03
Partition Default	1	1	1	1	1	1	1	1
Response Time Default *	1	1	1	1	1	1	1	1

* "1" for response time = 350 msec.

When the display shows the zone type you want, press [*] to advance to...

```
17 Partition
                 1
```
Partition No. (P) (Default = [1].

Enter "1" or "2".

Press [*] to advance to...

```
17 Report Code
1st 00 2nd 00  00
```
Report Code (RC): The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C".

Enter the numbers and press [*] to advance to...

```
17 Input Type
          AW:
```
Input Device (In): For the hardwired zones of the ***VISTA-20HW*** (HW), the auxiliary wired expansion zones on a 4219 or 4229 (AW), the Input Device types are automatically displayed (Panic, Duress, and Tamper inputs are not applicable).

When all is okay, press [*] to advance to...

Program Alpha?
0 = No 1 = Yes 0

Custom Alpha Editing: For all zone types, the next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1), or may be done at a later time via *82 mode (enter 0).

See *Section 14. ALPHA DESCRIPTION PROGRAMMING* for procedure.

Enter Zn Num.
(00 = Quit) 00

When all entries to be made for the zone at this time are complete, the next zone number can be entered for programming, or zone programming can be ended by entering [0][0] as the next "zone number".

Notes:

1. *In field *56, at the summary line for each zone, the entered values can be checked.* If it is desired to change anything, press [#] to move to the previous entry. Press [#] a number of times to move to earlier entries. Press [*] to move to later entries again.
2. *Zone entries can be reviewed* by pressing [#][5][6]. Changes cannot be made here, so this is safer for review. Enter the first zone number to be viewed and press [#]. To view each zone, press [#] and the zone number will advance to the next programmed zone. When the end of the list is reached, press [0][0] to exit. This method of exiting may also be done at any time during the review.

17 Zone Type
Not Used 00

17 Delete Zone?
1 = Yes 0 = No

3. *To either temporarily or permanently remove a zone from the system,* go into programming mode and press [*][5][6]. Enter the zone number and press [*]. At the "Zone Type" prompt, enter [0][0] and [*]. This sets the type of the zone to "Not Used". The next prompt will be "Delete Zone?". "Yes" will permanently remove the zone from the system, while "No" will disable it but retain all data except the original zone type. You can then go back to this zone later and put back an active Zone Type to re-enable it.

TO PROGRAM SYSTEM STATUS AND RESTORE REPORT CODES (*59 – *76, & *89)

The following is a set of guidelines to be used for programming report codes. The actual digits that you enter depend upon the particular installation, and should be in agreement with you and the central station office receiving the signals. Use these guidelines to program this entire section.

With a 3+1 or 4+1 Standard Format: Enter a code in the *first* box: 1–9, A, B, C, D, E, or F. Enter "#+10" for A (this reports a "0" on some receivers), "#+11" for B, "#+12" for C, "#+13" for D, "#+14" for E, "#+15" for F.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will result in automatic advance to the next field when programming.

With an Expanded or 4+2 Format: Enter codes in *both* boxes (1st and 2nd digits) for 1–9, or A–F, as described above.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will eliminate the expanded message for that report.

With Ademco Contact ID Reporting: Enter a digit in the *first* box to enable the zone to report. Use a different digit for each zone until you have used up available digits. If the number of zones exceeds the number of available digits, begin with digit 1 again. This is an "enabling" code only and is not the actual code sent to the central station office. Entries in the *second* boxes will be ignored. For system status (non-alarm) codes, enter a "1" in the first box for all the system conditions you want to send to the central station.

An entry of "0" in the *first* box will disable the report.

SYSTEM STATUS REPORT CODES (*59–*68)

***59 EXIT ERROR REPORT CODE** (See box previously) [ ]

If the system is armed and an Entry/Exit or Interior zone is still open after the exit delay time has expired, an alarm will sound at the keypad and external sounder (keypad also displays "Exit Alarm"). If the system is disarmed before the end of the entry delay that immediately follows, the alarm sounding will stop **and no message will be sent to the central station.** The keypad will display CA (fixed-word keypads) or CANCELED ALARM (Alpha keypads).

If the system is **not** disarmed before the end of the entry delay mentioned above, and an Entry/Exit or Interior zone is still open, **an "exit alarm" message will be sent to the central station if an Exit Error Report code is selected in this field.** The keypad will display EA (fixed-word keypads) or EXIT ALARM (Alpha keypads), and the alarm sounding will continue until the system is disarmed (or timeout occurs).

An "Exit Alarm " condition will also result if a fault occurs in an exit or interior zone within 2 minutes following the end of the exit delay, and an "exit alarm" message will be sent to the central station.

If Contact ID format has been programmed, the message will contain the zone number and error code 374 (Trouble–Exit Error) to define the alarm as an Exit Error (rather than E/E or Interior). If 4+2 format is used, the digit entered in this field will be sent followed by the second digit of the programmed alarm code for that zone. If 3+1 or 4+1 format is used, only the digit entered in this field will be sent. This message will go to the Primary Phone No. Under any of these conditions, no Restore message will be sent.

If "0" is entered in this field, no special message will be sent, only the regular alarm and alarm restore code for the zone.

***60 TROUBLE REPORT CODE** (See box previously) [ ]

***61 BYPASS REPORT CODE** (See box previously) [ ]

***62 AC LOSS REPORT CODE** [ ]

See box on previous page. Reports with Partition 1 Subscriber No. Timing of this report is random with up to a 4-hour delay. If AC restores before the report goes out, there is no AC restore report.

***63 LOW BAT REPORT CODE** [ ]

See box. Reports with Partition 1 Subscriber No.

***64 TEST REPORT CODE** [ ]

See box. Periodic Reports with Partition 1 Subscriber No.

***65 OPEN REPORT CODE** [ ]

See box on previous page. 2nd digit = User #, if expanded or 4+2 reporting is selected.

***66 ARM AWAY/STAY REPORT CODE** [ ]

This option allows for independent programming of AWAY and STAY reports for each partition. 2nd digit of report is User No. if expanded or 4+2 reporting is selected.

67** RF XMTR LOW BAT REPORT CODE. ***(NOT USED)

***68 CANCEL REPORT CODE** (See box on previous page.) [ ]

RESTORE REPORT CODES (*69–*76)

***69 GROUP RESTORES FOR TROUBLE, BYPASS** [ ]

Enter 0 for no (report for each restore), or 1 for yes (report after all zones restored). Default is "0". **Note:** "1" not applicable to Contact ID reporting.

***70 ALARM RESTORE REPORT CODE, 1st DIGIT** [ ]

2nd digit is automatically sent as the 2nd digit of the zone alarm report code programmed in field *56, if expanded or 4+2 reporting is selected.

***71 TROUBLE RESTORE REPORT CODE** [|]

See box on previous page. This is sent when a trouble in a zone is restored. Field *69 applies.

***72 BYPASS RESTORE REPORT CODE** [|]

See box on previous page. This is sent when a zone that has been bypassed is un-bypassed. Field *69 applies.

***73 AC RESTORE REPORT CODE** [|]

See box on previous page. Reports with Partition 1 Subscriber No.

***74 LOW BAT RESTORE REPORT CODE** [|]

See box on previous page. Reports with Partition 1 Subscriber No.

75** RF XMTR LOW BAT RESTORE REPORT CODE. ***(NOT USED)

***76 TEST RESTORE REPORT CODE** [|]

See box on previous page. Reports with Partition 1 Subscriber No. A restore code entered here will cause a restore message to be sent when Test mode is exited.

***80 OUTPUT DEVICES**

This is an interactive menu mode that is applicable only if field *25 is programmed for a 4229 or 4204, or if Powerline Carrier devices are to be used. See *Section 7. RELAY OUTPUTS & POWERLINE CARRIER DEVICES* for a detailed programming procedure. Also refer to the OUTPUT DEVICE table for *80 in the Programming Form.

***81 ZONE LISTS FOR OUTPUT DEVICES**

This is an interactive menu mode that is applicable only if field *25 is programmed for a 4229, 4204, or if Powerline Carrier devices are used.

Refer to *Section 7. RELAY OUTPUTS & POWERLINE CARRIER DEVICES* for a detailed programming procedure. Also refer to the ZONE LISTS FOR OUTPUT DEVICES table for *81 in the Programming Form.

***82 CUSTOM ALPHA EDITING**

See *Section 14. ALPHA DESCRIPTION PROGRAMMING* for procedure.

83** ADD/DELETE RF INPUT IDs. ***(NOT USED)

***89 EVENT LOG 80% FULL REPORT CODE** [|]

(Also see "TO PROGRAM SYSTEM STATUS, & RESTORE REPORT CODES box on a previous page).

If an Event Logging selection is made in field *90, a message can be sent to the central station receiver when the log is 80% full. If the log becomes full, a new message will overwrite the oldest message in the log.

Note: Aside from the selection made by the installer in field *90, all control and readout from the log is accomplished via the Downloader (see field *90).

***90 EVENT LOGGING** ☐

The VISTA-20HW system has the ability to record various events in a history log (48-event capacity). The types of events to be logged can be selected as indicated below. At any time, the downloader operator can then upload the log and view or print out all or selected categories of the log. The log can also be cleared by the downloader operator.

The display/printout at the central station will show the date, time, event, and description of the occurrences. The time is calculated by an internal clock at the central station computer. Note that the time for any events that occur prior to a system power-down or an entry into the programming mode cannot be calculated by the central station computer. The time will then appear on the log as "unknown".

0 = None; 1 = Alarm/Alarm Restore; 2 = Trouble/Trouble Restore; 4 = Bypass/Bypass Restore; 8 = Open/Close. The default is "3".

Example: To select "Alarm/Alarm Restore", and "Open/Close", enter 9 (1 + 8); to select all, enter #15.

Note: System messages are logged when any non-zero selection is made.

***91 OPTION SELECTION** ☐

Enter "4" if an Audio Alarm Verification (AAV) unit is connected in the system (1–3 not used); enter "0" if an AAV unit is not being used.

For UL installations, the AAV option must be disabled (enter "0").

***92 PHONE LINE MONITOR ENABLE** ☐

0 = Not used (default)

1 = Local keypad display only when phone line is faulted.

2 = Local keypad display plus keypad trouble sound when line is faulted. Each partition turns off its own trouble sound. No automatic timeout.

3 = Same as "2" above plus Device No. 2 STARTS. If either partition is armed, external sounder activates. External sounder will be turned off by normal bell timeout, or by security code plus OFF *from either partition* (it does not have to be the one that was armed).

Device number 2 must either be programmed to be STOPPED in field *80 or STOPPED by entry of **security code + # + 8 + 2**. Partition in *80 should be set to "0 "for STOP.

NOTE: Option 3 may be used even if a relay unit or Powerline carrier device is not connected to the control.

***93 NUMBER OF REPORTS IN ARMED PERIOD** ☐

This option can be used to limit the number of messages (alarm & alarm restore reports) sent to the central station in an armed period. "0" limits reports to a total of 10; "1" allows an unlimited number of reports. Default is **0**.

DOWNLOAD INFORMATION (*94, *95)

***94 DOWNLOAD PHONE NUMBER**

Enter up to 12 digits; | | | | | | | | | | | | |

0–9, # +11 for "*", # + 12 for "#", # + 13 for a pause. Do not fill unused spaces. End field by entering *. To clear entries from field, press *94*.

***95 RING DETECTION COUNT FOR DOWNLOADING** ☐

Enter number of rings before control picks up phone line (or 0 or 15). Refer to the chart that follows and program this field accordingly.

4285 Module	Answering Machine	Downloading	Field *95
Yes	No	No	Set for value other than "0" (1–15). This will enable the control panel to answer the phone call. Otherwise, it will not be possible to access the 4285 module
Yes	Yes	No	Set for a value higher than the number of of rings for which the answering machine is set. Example: if machine is set for 4 rings, use a value of 5 or higher. This is recommended so that the 4285 module can still be accessed if the answering machine is turned off and does not answer the phone call.
Yes	No	Yes	Set for value other than "0" (1–15).
Yes	Yes	Yes	Enter "15" to bypass answering machine.
No	No	No	Enter "0".
No	Yes	No	Enter "0".
No	No	Yes	Enter 1–15.
No	Yes	Yes	Enter 15.

***96** **INITIALIZE DOWNLOAD ID AND SUBSCRIBER ACCT. No. FOR DOWNLOADING**
(No data entry required, press *96)

***97** **SET ALL PROGRAM FIELDS TO DEFAULT VALUES**
(No data entry required, pressing *97 automatically loads all defaults).

TO EXIT PROGRAMMING MODE (*98 or *99)

***98** **EXITS PROGRAMMING MODE** and *prevents* re-entry by :
Installer Code + 8 + 0 + 0

***99** **EXITS PROGRAMMING MODE** and *allows* re-entry by:
Installer Code + 8 + 0 + 0 or by: **Power-up** then "*" and "#".

Section 18. REMOTE PROGRAMMING AND CONTROL (DOWNLOADING)

General Information

The VISTA-20HW can be remotely programmed from an IBM compatible Personal Computer (PC), a HAYES Modem, and Ademco's V-LINK® Software (as specified below).

UL Downloading may only be performed if a technician is at the site.

Programming the control from a remote location is protected against compromise by someone attempting to defeat the system, using multi-levels of security protection:

1. **Security Code Handshake:** An 8-digit download ID code must be matched between the control and the downloader .
2. **Site Initiated Remote Programming:** The installer or subscriber initiates the callback from the subscriber premises (by entering Installer code + # + 1) while disarmed. All parameters can then be downloaded via the phone lines using a personal computer.
3. **Station Initiated Remote Programming:** The operator calls the site from your office to initiate the download call. The control hangs up and then calls back the PC via the preprogrammed telephone number. The unit can then be uploaded, downloaded, or controlled from your office .
4. **Data Encryption:** Data passed between the PC and the control is encrypted for security so that it is very difficult for a foreign device tapped into the phone line to take over communication and substitute system compromising information.

Equipment Required

At the premises:

- VISTA-20HW and keypad.

At the installer's office/home:

- An IBM PC compatible computer.
- *Either* a HAYES brand SMARTMODEM 1200 [Level 1.2 or higher external or Level 1.1 or higher (with 4 position DIP switch) internal style],*or* a HAYES brand Optima 24 Plus FAX96 Modem.
- V-LINK® Downloading Software Diskette (at revision level supporting the VISTA-20HW).
- Appropriate interconnecting cables.

Initial Download

Enter Installer code + # + 5. This sets field *95 to 4 rings, subscriber No. to default, and system to "no call-back" option. The download computer can then call the subscriber, make connection, and download all programming items.

Remote Programming Information

The downloading system can perform many functions when in communication with the control unit. Besides uploading and downloading, the status of the system can be observed and various commands can be initiated, as follows:

- Arm the System in the Away Mode; Disarm the System.
- Bypass a Zone.
- Force the System to Accept a New Program Download.
- Shut Down Communication (dialer) Functions (non-payment of monitoring fees in an owned system).
- Shut Down all Security System Functions (non-payment for a leased system).
- Inhibit Local Keypad Programming (prevents account takeover).

- Command the System to Upload a Copy of its Resident Program to the office.
- Read: Arming Status, AC Power Status, Lists of Faulted Zones, Bypassed Zones, Zones Currently in Alarm, Zones Currently in Trouble.

Notes: After the control and the PC have established valid communication, each keypad on the system will become inactive and will display "**CC**" or "**MODEM COMM.**". The control, however, will still be scanning its zones and looking for alarms. If an alarm does occur, after communication is broken off alarms are sounded and the proper dialer reports are sent to the central station. The keypads will become active after the download communication is terminated. The detailed operation of the download functions is covered in the installation instructions for the V-LINK® Downloading Software Diskette.

Remote Programming Advisory Notes

- Alarm and trouble reporting may be delayed during the time that the system and the Downloader are linked to each other following a valid exchange of codes, but the proper message will get through to the Central Station after the link is broken.
- Keypad entries are ignored during the time interval stated above.
- A copy of the program downloaded may be produced from the IBM PC compatible computer, using the product's internal report generator, when an optional printer is connected (consult your PC manual for proper printer and connections).
- Program Upload or Download Time—Approximately one minute fifteen seconds for a complete program.

Section 19. TESTING THE SYSTEM

Test Procedure

After installation is completed, *each* partition of the Security System should be carefully tested, as follows.

1. With the System in the disarmed state, check that all zones are intact. If a **NOT READY** message is displayed, press the **[*]** key to display the faulted zone(s). Restore faulted zone(s) if necessary, so that **READY** message is displayed. Fault and restore every sensor individually to assure that it is being monitored by the system.
2. Enter the **security code** and press the **TEST** key. The outside sounder will sound for 1 second. The keypad should sound 3 beeps each time a contact is faulted. A test report should be sent (if programmed) to the Central Station immediately. If the backup battery is discharged or missing, the sounder may not turn on and a LOW BATTERY report will be transmitted with a TEST report. The keypad will beep once per minute as a reminder that the system is in the Test Mode. To turn off the test mode enter **security code** and press the **OFF** key.

Alarm messages will be sent to the central station during the following tests 3 and 4. Notify them *in advance* that tests will be in progress.

3. Arm the system and fault one or more zones. After 15 seconds (if optional dialer delay is selected), silence alarm sounder(s) by entering the **code** and pressing **OFF.** Check Entry/Exit delay zones.
4. Check the keypad-initiated alarms that are in the system by pressing the Panic key (key pairs on some keypads) . If the system has been programmed for audible emergency, the keypad will emit a steady alarm sound, and **ALARM and zone number** will be displayed. Silence the alarm by entering the **security code** and pressing **OFF.**

   If the system has been programmed for silent emergency, there will be no audible alarms or displays, but a report will be sent to the central station.
5. If output Relay Units/Powerline Carrier Devices have been installed, test their programmed action.
6 Notify the central station when all tests are finished, and verify results with them.

NOTE:
THE TEST MODE WILL BE AUTOMATICALLY TERMINATED AFTER 4 HOURS IF THE INSTALLER OR USER DOES NOT MANUALLY TERMINATE IT.
THIS INSURES THAT FIRE AND PANIC ZONES WILL NOT REMAIN DISABLED.

TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's proper operation at all times.

Section 20. SYSTEM OPERATION

Security Codes

Installer Code

The installer programs the 4-digit Installer Code initially as part of the programming procedure. The factory default Installer code is "**4-1-1-2**", but may be changed in field *20.

The Installer code is the only code that can enter programming mode and also, in normal operation mode, is used to enter the Master code for each partition, which allows access to the normal functions of the system.

See *Section 4. MECHANICS OF PROGRAMMING* for information on exiting the programming mode via fields *98 or *99.

Master Code

In normal operation mode, the Installer code is used to enter the 4-digit Master security code for each partition, using *the keypad connected to Partition 1*:

To enter the Master code for Partition 1, enter:

Installer Code + [8] + [01] + desired 4-digit Master code for Partition 1

To enter the Master code for Partition 2, enter:

Installer Code + [8] + [02] + desired 4-digit Master code for Partition 2

Secondary User Codes

In normal operation mode, each partition's Master security code can be used to assign up to 14 secondary 4-digit security codes for that partition. It can also be used to remove secondary codes from the system (individually).

To assign (or change) a Secondary security code, enter *(via partition's keypad)*:

Partition's Master Code + [CODE key] + User # (03–16) + desired Secondary Code

The system will emit a single beep when each secondary code has been successfully entered.

To delete a Secondary security code, enter *(via partition's keypad)*:

Partition's Master Code + [CODE key] + User # (03–16)

Notes:

- All Master and Secondary security codes permit access to the system for arming, disarming, etc.
- The installer code can disarm the system only if it was used to arm it.
- User code No. 15 is a "babysitter" code, i.e., it can disarm the system only if it was used to arm it.
- User code No. 16 is the Duress code. When this is used to perform any system operation, a special code is sent to the monitoring station. Instruct users to be careful not to use this code for normal usage.
- If a secondary code is inadvertently repeated for different users, the lower user number will take priority.
- Opening and closing reports are sent for the Installer code as No. 01, with the appropriate subscriber number. Each Master code and set of secondary user codes are sent as Nos. 02, and 03–16 respectively in Contact ID format (with the appropriate subscriber number); in 4+2, it is 1–F, "F" for anything greater than 15; keyswitch will report as user "0".

Keypad Functions

General Information

Note that if you enabled QUICK ARM for the partition (field *21), the [#] key can be pressed instead of entering the partition's security code, for any of the arming procedures (Away, Stay, Instant, Maximum, etc.). The security code is *always* required, however, when disarming the system.

The keypad allows the user to arm and disarm the system, and perform other system functions, such as bypassing zones, and display zone descriptors. Zone and system conditions (alarm, trouble, bypass) are displayed in the Display Window.

When an alarm occurs, keypad sounding and external sounding will occur, and the zone(s) in alarm will be displayed on the keypad. Pressing any key will silence the keypad sounder for 10 seconds. Disarming the system will silence both keypad and external sounders. When the system is disarmed, any zones that were in an alarm condition during the armed period will be displayed (memory of alarm). To clear this display, simply repeat the disarm sequence (enter the security code and press the OFF key) *again.*

The keypads also feature chime annunciation, and 3 panic key pairs, or individual panic keys (depending on keypad type – see *Panic Keys*), for silent, audible, fire or personal emergency alarms. These keys can notify the central station of an alarm condition, if that service is connected.

Arming Functions

The following is a brief list of system commands. For detailed information concerning system functions, refer to the User's Manual.

Disarmed, Not Ready ..... Before arming, the system must be in the READY condition (all zones must be intact). If the "NOT READY" message appears, press the READY [*] key to display faulted zones.

Arming Away ..... Enter code + AWAY [2].

Arming Stay ..... Enter code + STAY [3].

Arming Instant ..... Enter code + INSTANT [7].

Arming Maximum ..... Enter code + MAXIMUM [4].

Disarming ..... Enter code + OFF [1].

Bypassing Zones ..... Enter code + BYPASS [6] + zone number(s).

Forced (Quick) Bypass ..... *(If enabled)* To automatically bypass all faulted zones, use the "Quick Bypass" method: Enter code + BYPASS, then wait for all open zones to be displayed. Arm when display indicates "bypass" and "ready to arm".

Chime Mode ..... Enter code + CHIME [9].
To turn chime off, enter code + CHIME again.

SUMMARY OF ARMING MODES

Arming Mode	Features for Each Arming Mode			
	Exit Delay	Entry Delay	Perimeter Armed	Interior Armed
AWAY	Yes	Yes	Yes	Yes
STAY	Yes	Yes	Yes	No
INSTANT	Yes	No	Yes	No
MAXIMUM	Yes	No	Yes	Yes

Panic Keys

There are three lettered keys or (on some keypads, panic key pairs) that, if programmed, can be used to manually initiate alarms and send a report to the central station.

Each can be individually programmed for 24-hour Silent, Audible, Personal or Fire Emergency responses. The panic function is activated when the appropriate lettered key is pressed for at least 2 seconds, or the appropriate key pair are pressed at the same time.

The panic functions are identified by the system as follows:

Keys	Displayed as Zone
[A], or [1] & [*]	95
[B], or [*] & [#]	99
[C], or [3] & [#]	96

Notes:
- Keys [A], [B], [C] are not on all keypads.
- Key [D], if present, is not active here.

Important: For the Silent Panic functions to be of practical value, the system must be connected to a central station.

Relay/Powerline Carrier Devices (if used)

If relay outputs (via a 4204, or 4229), or Powerline Carrier devices are used, two keypad entries available to the user are included. They can manually activate or deactivate the device(s) for starting or stopping some action, such as turning lights on or off, etc.

These keypad entries are:

Security Code + [#] + [7] + Device # activates (starts) that device.

Security Code + [#] + [8] + Device # de-activates (stops) that device.

4285 Module (if used)

Refer to the separate instructions supplied with the 4285 module for information concerning its operating procedures.

Note: The 4285 module **cannot** be used to add user codes in this system. User codes must be added by using a wired keypad.

Exit Alarm Displays (if programmed)

- **A display of "CANCELED ALARM" or "CA" and a zone indication** will appear if an exit or interior zone contained a fault during closing at the time the exit delay ended (e.g., exit door left open), *but the system was disarmed during the entry delay time.* The alarm sounder and keypad sound continuously, but stop when the system is disarmed. No message will be transmitted to the central station.
- **A display of "EXIT ALARM" or "EA" and a zone indication** will appear if an exit or interior zone contained a fault during closing at the time the exit delay ended, *but the system was NOT disarmed during the entry delay time.* The alarm sounder and keypad sound continuously until the system is disarmed (or timeout occurs). An "exit alarm" message is sent to the central station.
- **The "EXIT ALARM" display, etc.** will also result if an alarm from an exit or interior zone occurs within two minutes after the end of an exit delay.

In any of the above cases, use a second OFF sequence (code plus OFF key) to clear the display.

Trouble Conditions

(See Troubleshooting Guide also)

General Information

The word "CHECK" on the Keypad's display, accompanied by a rapid "beeping" at the Keypad, indicates that there is a trouble condition in the system. The audible warning sound can be silenced by pressing any key. Instruct users to call for service immediately upon seeing any of the following messages.

"Check" and "Battery" Displays

- **A display of "CHECK" and one or more zone numbers** indicates that a problem exists with the displayed zone(s) and requires attention.

  Note: The control will sense a high resistance in the loops on hard-wired zones 2–8 and display "CHECK" and the affected zone number when the system is in the disarmed mode. It will not be possible to arm the system as long as this condition exists (unless this zone is bypassed). If the system is in the armed mode when the high resistance condition occurs, this display will not appear, but will do so as soon as the system is disarmed. Check the sensor or the loop wiring for the displayed zone.

  When the problem has been corrected, the display can be cleared by entering the OFF sequence (code plus OFF key) twice.

- A display of **"CHECK"** and **09** indicates that communication between control and a zone expander or wireless receiver is interrupted. Check the wiring and DIP switch settings on the units.
- **A display of "BAT"** (Fixed-word keypads) **or "SYSTEM LO BAT"** (Alpha keypads) **with no zone number** indicates that the system's main standby battery is weak.

Telephone Line Failure

A display of **"94"** (Fixed-word keypads), or **"Telco Fault"** (Alpha keypads), indicates that a monitored telephone line (if programmed in field *92) has been cut (or disconnected). Depending on how the system was programmed, the keypad may also produce a trouble sound, and the external sounder may be activated (silence by entering installer code plus OFF).

Power Failure

- **If there is no keypad display at all, and the POWER indicator (if present) is not lit,** operating power for the system has stopped and the system is inoperative.
- **If the message "AC LOSS"** (Alpha keypads) **or "NO AC"** (Fixed-word keypads) **is displayed, and the POWER indicator (if present) is off,** the keypad is operating on battery power only.
- **If the battery standby capacity is used up during a prolonged AC power outage,** the control's auxiliary power will shut down to minimize deep discharge of the battery.

Other Displays
(Fixed Word displays are in parentheses)

Busy-Standby (dI). If this remains displayed for more than 1 minute, the system is disabled.

Modem Comm (CC) The system is in communication with the central station for change of function or status verification.

Comm. Failure (FC) A communication failure has occurred.

Open Circuit (OC) The keypad is not receiving signals from the control and sees an open circuit.

Long Rng Trbl (bF) Back-up LRR communication failure.

Section 21. TROUBLESHOOTING GUIDE

SYSTEM

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. Low Battery message on keypad.	1a. "Bat" or "System Lo Bat" (no zone Nos.)	1a. System battery is low or missing.
2. Periodic beep(s) from keypad.	2a. System is in TEST mode.	2a. Enter "Code" + OFF to exit TEST mode.
3. Nuisance or phantom alarm.	3a. Sensors not properly installed, wired, or monitored.	3a. Check installation to see if in accordance with established procedure.
4. Intrusion alarm for no apparent reason.	4a. Protected door or window opened while system armed. 4b. Improper user operation of exit/entry delays. 4c. Magnets located too far from switches, and/or doors and windows not properly aligned.	4a. Check with all occupants of protected home. 4b. Check setting of entry delay . Exit delay is 40 seconds longer than the entry delay time. Remind user of same. 4c. Check all openings for proper switch and magnet orientation.
5. "CHECK" and zone number 2–8 is displayed.	5. Control has sensed a high resistance condition on a loop in one of the hard-wired zones (2–8).	5. Check the sensor or the loop wiring in the affected zone. The system will not arm until this condition is corrected (or the affected zone is bypassed).

CONTROL

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. "AC POWER" light off.	1a. Interrupted AC power supply.	1a. Check transformer connection and Powerline circuit breaker.
2. Digital communicator message not being received.	2a. VISTA-20HW in TEST mode. 2b. Telephone connection not secure. 2c. Digital communicator malfunctioning. 2d. Telephone number in program needs prefix or access code. 2e. Telephone call to central monitoring station requires operator assistance.	2a. Remove from TEST mode. 2b. Check all connections. 2c. Check with a different VISTA-20HW. 2d. Program prefix or access code into the VISTA-20HW. 2e. VISTA-20HW system cannot work in this situation.
3. Does not arm properly.	3a. Ready light not on.	3a. Check for faulted zones and make intact, or use Bypass arming, if desired.
4. VISTA-20HW doesn't respond to keystrokes on keypad.	4a. "CC" or "MODEM COMM" displayed. 4b. "d1" or "System Busy" displayed. 4c. "E4" or "E8", or "Standby System Busy" displayed. 4d. Keypad address setting incorrect.	4a. System is in communication with downloader at central station. Wait until download session is finished. 4b. System has just been powered and is in its one minute initialization. To bypass this time, press '#' + '0'. 4c. More zones have been programmed than the zone expansion modules can handle. 4d. Keypads must be set for address 31 (non-addressable mode).

SMOKE DETECTOR

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. Detector alarms, no apparent reason.	1a. Dust, dirt in sensing chamber. 1b. Improper location. 1c. Unit malfunctioning.	1a. Clean unit's sensing chamber with vacuum cleaner per unit's instructions. 1b. See unit's instructions for locations to avoid. Relocate as necessary. 1c. Replace detector.
2. Detector's siren sounds.	2a. Unit not receiving required power. 2b. Unit malfunctioning.	2a. Check for proper installation of battery. Try new battery. 2b. Replace detector.

CONTACTING TECHNICAL SUPPORT

PLEASE,

Before you call Technical Support, be sure you:

- **READ THE INSTRUCTIONS!**
- **Check all wiring connections.**
- **Determine that the power supply and/or backup battery are supplying proper voltages.**
- **Verify your programming information where applicable.**
- **Note the proper model number of this product, and the version level (if known) along with any documentation that came with the product.**
- **Note your ADEMCO customer number and/or company name.**

Having this information handy will make it easier for us to serve you quickly and effectively.

You may contact Technical Support via Toll-Free FAX. Please include your return FAX number. You will receive a reply within 24 hours. You may also contact Technical Support via modem to ATLIS–BBS, Technical Support's Electronic Bulletin Board System. Replies are posted within 24 hours.

East Coast Technical Support: 1–800–645–7492 (8 a.m.–6 p.m. E.S.T.)
West Coast Technical Support: 1–800–458–9469 (8 a.m.–5 p.m. P.S.T.)

Technical Support FAX Number: 1–800–447–5086

ATLIS–BBS Electronic Bulletin Board System: 1–516–496–3980
(1200 – 9600 Baud, 8 Data Bits, 1 Start/Stop Bit, No Parity)

ATLIS FAX – Automated Fax Retrieval System: 1–800–573–0153
1–516–921–6704/Ext. 1667

REGULATORY AGENCY STATEMENTS

UL NOTICE: This is a "Grade A" residential system.

FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 15 STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find the following booklet prepared by the Federal Communications Commission helpful: "Interference Handbook"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 68 STATEMENT

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following jacks: An RJ31X is used to connect this equipment to the telephone network.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

There are no user serviceable components in this product, and all necessary repairs must be made by the manufacturer. Other repair methods may invalidate the FCC registration on this product.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

This equipment is hearing-aid compatible.

When programming or making test calls to an emergency number, briefly explain to the dispatcher the reason for the call. Perform such activities in the off-peak hours; such as early morning or late evening.

Section 22. SPECIFICATIONS & ACCESSORIES

Specifications

VISTA-20HW SECURITY CONTROL

1. Physical: 12-1/2" W x 14-1/2" H x 3" D (318mm x 368mm x 76mm).

2. Electrical:

VOLTAGE INPUT: 16.5VAC from plug-in 25VA transformer, Ademco No. 1321/TF2 (in U.S.A.).

RECHARGEABLE BACK-UP BATTERY: 12VDC, 4AH (Gel type) minimum. Charging Voltage: 13.8VDC.

ALARM SOUNDER: 12V, 2.0 Amp output can drive 12V BELLS or can drive one or two 702 (**series** connected) self-contained 20-watt sirens. Do **not** connect two 702s in parallel.

AUXILIARY POWER OUTPUT: 12VDC, 600mA max. Interrupts for 4-wire smoke detector reset.

Note: *For UL installations, Alarm Sounder plus Auxiliary Power currents should not exceed 700mA total.*

STANDBY TIME: (see formula in *Section 13. FINAL POWER UP* for required battery size needed).

FUSE: Battery (3A) No. 90–12.

3. Communication:

FORMATS SUPPORTED:

Ademco Express,
10 characters/sec, DTMF (TouchTone) Data Tones, 1400/2300Hz ACK, 1400Hz KISSOFF.

Ademco Contact ID Reporting,
10 characters/sec., DTMF (TouchTone) Data Tones, 1400/2300Hz ACK, 1400Hz KISSOFF.

Ademco Low Speed, 10 pulses/sec, 1900Hz Data Tone, 1400Hz ACK/KISSOFF.

Radionics/SESCOA, 20 pulses/sec, 1800Hz Data Tone, 2300Hz ACK/KISSOFF. Can report 0–9, B–F

Line Seize: Double Pole.

Ringer Equivalence: 0.7B.

FCC Registration No.: AC 398U–68192–AL–E.

4. Maximum Zone Resistance: Zones 1–8 = 300 ohms excluding EOLR

4127 REMOTE KEYPAD

1. Physical: 5-5/8" W x 4-11/16" H x 7/8" D (143mm x 119mm x 22mm).

2. Electrical: *Voltage Input:* 12VDC, *Current Drain:* 20mA.

3. Interface Wiring: To control panel's keypad connection points.

RED:	12VDC input (+) aux pwr.
GREEN:	Data Out to Control.
YELLOW:	Data In from Control.
BLACK:	Ground.

4137AD & 5137AD REMOTE KEYPADS

1. Physical: 8-2/5" W x 4-3/4" H x 1-1/10" D (213mm x 121mm x 28mm).

2. Electrical: *Voltage Input:* 12VDC.
Current Drain: 60mA (4137AD).
90mA(5137AD).

3. Interface Wiring:

RED:	12VDC input (+) auxiliary power.
BLUE:	18VDC input from optional No 1350 or 1360 Power Pack (not usable for UL installations).
GREEN:	Data Out to Control.
YELLOW:	Data In from Control.
BLACK:	Ground (–) connection from optional No. 1350/1360 Power Pack.

6127 REMOTE KEYPAD

1. **Physical:** 5-3/4" W x 4-3/4" H x 1" D (146mm x 121mm x 26mm).
2. **Electrical:** *Voltage Input:* 12VDC; *Current Drain:* 20mA.
3. **Interface Wiring:** Same as 4127.

6128 REMOTE KEYPAD

1. **Physical:** 5-3/4" W x 4-3/4" H x 1" D (146mm x 121mm x 26mm).
2. **Electrical:** *Voltage Input:* 12VDC; *Current Drain:* 30mA.
3. **Interface Wiring:** Same as 4127.

6137 REMOTE KEYPAD

1. **Physical:** 6-1/4" W x 4-3/4" H x 1" D (159mm x 121mm x 26mm).
2. **Electrical:** *Voltage Input:* 12VDC; *Current Drain:* 85mA.
3. **Interface Wiring:** Same as 4127.

6138 & 6139 REMOTE KEYPADS

1. **Physical:** 6-1/4" W x 4-3/4" H x 1" D (159mm x 121mm x 26mm).
2. **Electrical:** *Voltage Input:* 12VDC; *Current Drain:* 100mA.
3. **Interface Wiring:** Same as 4127.

4219 WIRED EXPANSION MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm).
2. **Electrical:** *Voltage Input:* 12VDC; *Current Drain:* 35mA.
3. **Interface Wiring:** Same as 4127.
4. **8 EOLR Loops (A–H):** Loop A can be set for fast (10–15msec) response to an open.

4204 RELAY MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm).
2. **Electrical:** *Voltage Input:*12VDC; *Current Drain:* 15mA(Relays off). 180mA (Relays on).
3. **Interface Wiring:** Same as 4127
4. **Four Output Relays:** SPDT Contacts, *Rating:* 2A max at 28VDC/AC

4229 WIRED EXPANSION/ RELAY MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm).
2. **Electrical:** *Voltage Input:*12VDC; *Current Drain:* 35mA (Relays off). 100mA (Relays on).
3. **Interface Wiring:** Same as 4127.
4. **8 EOLR Loops (A–H):** Loop A can be set for fast (10–15msec) response to an open.
5. **Two Output Relays:** SPDT Contacts, *Rating:* 2A max at 28VDC/AC.

4285 VIP MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm).
2. **Electrical:** *Voltage Input:* 12VDC *Current Drain:*160mA.
3. **Device Address:** Permanently set to address 4.
4. **Interface Wiring:** Refer to *Section 8. 4285 VIP (VISTA Interactive Phone) MODULE.*
5. **Telephone Line Connections:** Refer to *Section 8. 4285 VIP (VISTA Interactive Phone) MODULE.*

Accessories (Compatible Devices)

	No. 1321/TF2	16.5VAC, 25VA Plug-In Transformer.
	No. 4300	Powerline Carrier device Interface AC Transformer.
Sounders	**Ademco AB-12M 10" Motorized Bell & Box**	Motor bell & box. UL Grade A. 100 mA current draw.
	Ademco 1011BE12M 10" Motorized Bell & Box	Motor bell & box. UL Listed. 100 mA current draw.
	Ademco 702 Outdoor Siren	Self-contained 6–12 volt siren (driver built-in) and weatherproof for outdoor use. Can be wired for either a steady or warble sound.
	Ademco 719 2-Channel Siren	Two-channel, self-contained 6–12-volt siren (driver built in). 109dB @ 10 feet. 550mA current draw.
	Ademco 747 Indoor Siren	Self-contained 12 volt siren (driver built-in) for indoor wall mount. 747F available for flush mounting.
	Ademco 747UL Indoor Siren	Self-contained siren (driver built-in) for indoor wall mount. UL Listed.
	Ademco 744 Siren Driver	6 jumper-selected sound outputs. Rated at 119dB with use of an 8-ohm 30 watt speaker.
	Ademco 745X3 Voice Siren Driver	Voice siren driver with English, Spanish and French voice messages. Separate messages for Fire and Burglary. Use with 8-ohm speaker. UL Listed.
	Ademco 705–820, 5-inch Round Speaker	15-watt, 8-ohm speaker.
	Ademco 713 Speaker	40-watt, 8-ohm, indoor/outdoor speaker.
	System Sensor PA400B (beige)/PA400R (red) Indoor Piezo Sounder	Indoor piezo sounder (red or beige), rated at 90 dB @ 10 feet.

Compatible 2-Wire Smoke Detectors	*System Sensor*	
	2300T	Photoelectric w/heat sensor, direct wire.
	2400	Photoelectric, direct wire.
	2400TH	Photoelectric w/heat sensor, direct wire.
	2451	Photoelectric w/B401B base.
	2451TH	Photoelectric w/heat sensor & B401Bbase.
	1400	Ionization, direct wire.
	1451	Ionization w/B401B base.
	2451	Photoelectric duct detector w/DH400 base.
	1451DH	Ionization duct detect. w/DH400 base.
Compatible 4-Wire Smoke/Combustion Detectors	*System Sensor*	
	1412	4-wire ionization products of combustion detector.
	2412	4-wire photoelectric smoke detector.
	2412TH	4-wire photoelectric smoke detector w/135º F (57º C) heat detector.
	A77–716B	EOL relay module (supervisory module for wired 4-wire fire zone).
	2112/24T	Low-profile 4-wire photoelectric smoke detector w/135º F (57º C) heat detector.

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WARNING
THE LIMITATIONS OF THIS ALARM SYSTEM

While this System is an advanced design security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a variety of reasons. For example:

- Intrusion detectors (e.g., passive infrared detectors), smoke detectors, and many other sensing devices will not work without power. Battery-operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- A user may not be able to reach a panic or emergency button quickly enough.
- While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published by the Federal Emergency Management Agency. Some of the reasons smoke detectors used in conjunction with this System may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40°C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.

The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors and transmitters are working properly. The security keypad (and remote keypad) should be tested as well.

Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.

Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

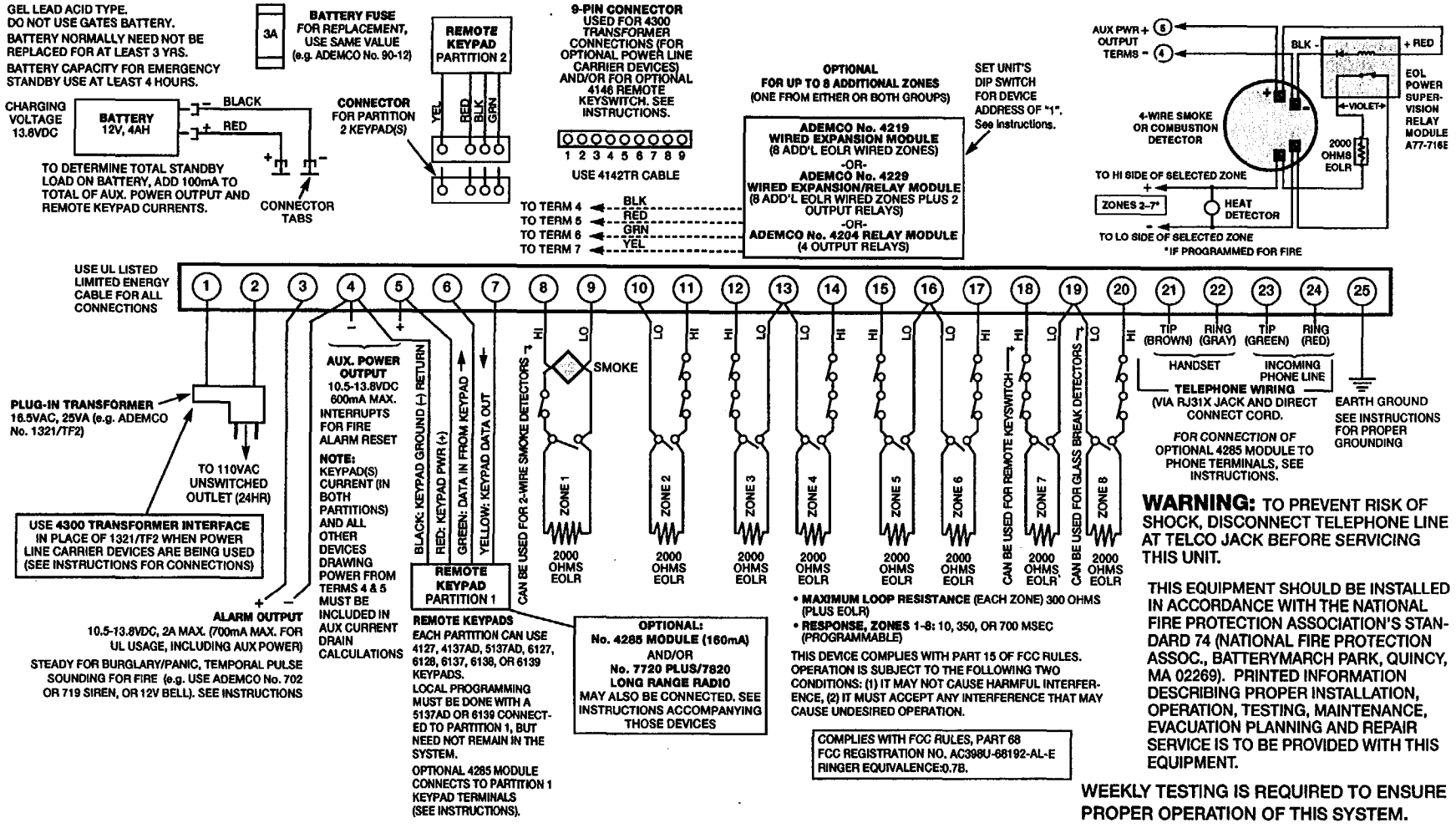
GEL LEAD ACID TYPE.
DO NOT USE GATES BATTERY.
BATTERY NORMALLY NEED NOT BE REPLACED FOR AT LEAST 3 YRS.
BATTERY CAPACITY FOR EMERGENCY STANDBY USE AT LEAST 4 HOURS.
3A
BATTERY FUSE
FOR REPLACEMENT, USE SAME VALUE (e.g. ADEMCO No. 90-12)
CHARGING VOLTAGE 13.8VDC
BATTERY 12V, 4AH
BLACK
RED
TO DETERMINE TOTAL STANDBY LOAD ON BATTERY, ADD 100mA TO TOTAL OF AUX. POWER OUTPUT AND REMOTE KEYPAD CURRENTS.
CONNECTOR TABS
REMOTE KEYPAD PARTITION 2
CONNECTOR FOR PARTITION 2 KEYPAD(S)
YEL
RED
BLK
GRN
9-PIN CONNECTOR
USED FOR 4300 TRANSFORMER CONNECTIONS (FOR OPTIONAL POWER LINE CARRIER DEVICES) AND/OR FOR OPTIONAL 4146 REMOTE KEYSWITCH. SEE INSTRUCTIONS.
1 2 3 4 5 6 7 8 9
USE 4142TR CABLE
OPTIONAL
FOR UP TO 8 ADDITIONAL ZONES
(ONE FROM EITHER OR BOTH GROUPS)
SET UNIT'S DIP SWITCH FOR DEVICE ADDRESS OF "1". See instructions.
ADEMCO No. 4219
WIRED EXPANSION MODULE
(8 ADD'L EOLR WIRED ZONES)
-OR-
ADEMCO No. 4229
WIRED EXPANSION/RELAY MODULE
(8 ADD'L EOLR WIRED ZONES PLUS 2 OUTPUT RELAYS)
-OR-
ADEMCO No. 4204 RELAY MODULE
(4 OUTPUT RELAYS)
TO TERM 4 BLK
TO TERM 5 RED
TO TERM 6 GRN
TO TERM 7 YEL
AUX PWR+ OUTPUT TERMS
BLK -
+ RED
VIOLET
EOL POWER SUPERVISION RELAY MODULE A77-716E
4-WIRE SMOKE OR COMBUSTION DETECTOR
2000 OHMS EOLR
TO HI SIDE OF SELECTED ZONE
ZONES 2-7*
HEAT DETECTOR
TO LO SIDE OF SELECTED ZONE
*IF PROGRAMMED FOR FIRE
USE UL LISTED LIMITED ENERGY CABLE FOR ALL CONNECTIONS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
PLUG-IN TRANSFORMER 16.5VAC, 25VA (e.g. ADEMCO No. 1321/TF2)
TO 110VAC UNSWITCHED OUTLET (24HR)
USE 4300 TRANSFORMER INTERFACE IN PLACE OF 1321/TF2 WHEN POWER LINE CARRIER DEVICES ARE BEING USED (SEE INSTRUCTIONS FOR CONNECTIONS)
AUX. POWER OUTPUT
10.5-13.8VDC
600mA MAX.
INTERRUPTS FOR FIRE ALARM RESET
NOTE: KEYPAD(S) CURRENT (IN BOTH PARTITIONS) AND ALL OTHER DEVICES DRAWING POWER FROM TERMS 4 & 5 MUST BE INCLUDED IN AUX CURRENT DRAIN CALCULATIONS
ALARM OUTPUT
10.5-13.8VDC, 2A MAX. (700mA MAX. FOR UL USAGE, INCLUDING AUX POWER)
STEADY FOR BURGLARY/PANIC, TEMPORAL PULSE SOUNDING FOR FIRE (e.g. USE ADEMCO No. 702 OR 719 SIREN, OR 12V BELL). SEE INSTRUCTIONS
BLACK: KEYPAD GROUND (-) RETURN
RED: KEYPAD PWR (+)
GREEN: DATA IN FROM KEYPAD
YELLOW: KEYPAD DATA OUT
REMOTE KEYPAD PARTITION 1
REMOTE KEYPADS
EACH PARTITION CAN USE 4127, 4137AD, 5137AD, 6127, 6128, 6137, 6138, OR 6139 KEYPADS.
LOCAL PROGRAMMING MUST BE DONE WITH A 5137AD OR 6139 CONNECTED TO PARTITION 1, BUT NEED NOT REMAIN IN THE SYSTEM.
OPTIONAL 4285 MODULE CONNECTS TO PARTITION 1 KEYPAD TERMINALS (SEE INSTRUCTIONS).
CAN BE USED FOR 2-WIRE SMOKE DETECTORS
HI
LO
SMOKE
ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
ZONE 7
ZONE 8
2000 OHMS EOLR
CAN BE USED FOR REMOTE KEYSWITCH
CAN BE USED FOR GLASS BREAK DETECTORS
OPTIONAL:
No. 4285 MODULE (160mA)
AND/OR
No. 7720 PLUS/7820
LONG RANGE RADIO
MAY ALSO BE CONNECTED. SEE INSTRUCTIONS ACCOMPANYING THOSE DEVICES
• MAXIMUM LOOP RESISTANCE (EACH ZONE) 300 OHMS (PLUS EOLR)
• RESPONSE, ZONES 1-8: 10, 350, OR 700 MSEC (PROGRAMMABLE)
THIS DEVICE COMPLIES WITH PART 15 OF FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) IT MAY NOT CAUSE HARMFUL INTERFERENCE, (2) IT MUST ACCEPT ANY INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
COMPLIES WITH FCC RULES, PART 68
FCC REGISTRATION NO. AC398U-68192-AL-E
RINGER EQUIVALENCE:0.7B.
TIP (BROWN)
RING (GRAY)
TIP (GREEN)
RING (RED)
HANDSET
INCOMING PHONE LINE
TELEPHONE WIRING
(VIA RJ31X JACK AND DIRECT CONNECT CORD.
FOR CONNECTION OF OPTIONAL 4285 MODULE TO PHONE TERMINALS, SEE INSTRUCTIONS.
EARTH GROUND
SEE INSTRUCTIONS FOR PROPER GROUNDING
WARNING: TO PREVENT RISK OF SHOCK, DISCONNECT TELEPHONE LINE AT TELCO JACK BEFORE SERVICING THIS UNIT.
THIS EQUIPMENT SHOULD BE INSTALLED IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION'S STANDARD 74 (NATIONAL FIRE PROTECTION ASSOC., BATTERYMARCH PARK, QUINCY, MA 02269). PRINTED INFORMATION DESCRIBING PROPER INSTALLATION, OPERATION, TESTING, MAINTENANCE, EVACUATION PLANNING AND REPAIR SERVICE IS TO BE PROVIDED WITH THIS EQUIPMENT.
WEEKLY TESTING IS REQUIRED TO ENSURE PROPER OPERATION OF THIS SYSTEM.

Figure 20. VISTA-20HW SUMMARY OF CONNECTIONS

ADEMCO LIMITED WARRANTY

Alarm Device Manufacturing Company, a Division of Pittway Corporation, and its divisions, subsidiaries and affiliates ("Seller"), 165 Eileen Way, Syosset, New York 11791, warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 18 months from the date stamp control on the product or, for products not having an Ademco date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any product which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Ademco factory service. For warranty service, return product transportation prepaid, to Ademco Factory Service, 165 Eileen Way, Syosset, New York 11791.

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